

# Fossilium Catalogus

## II: Plantae.

Editus a

W. Jongmans.

---

Pars 13:

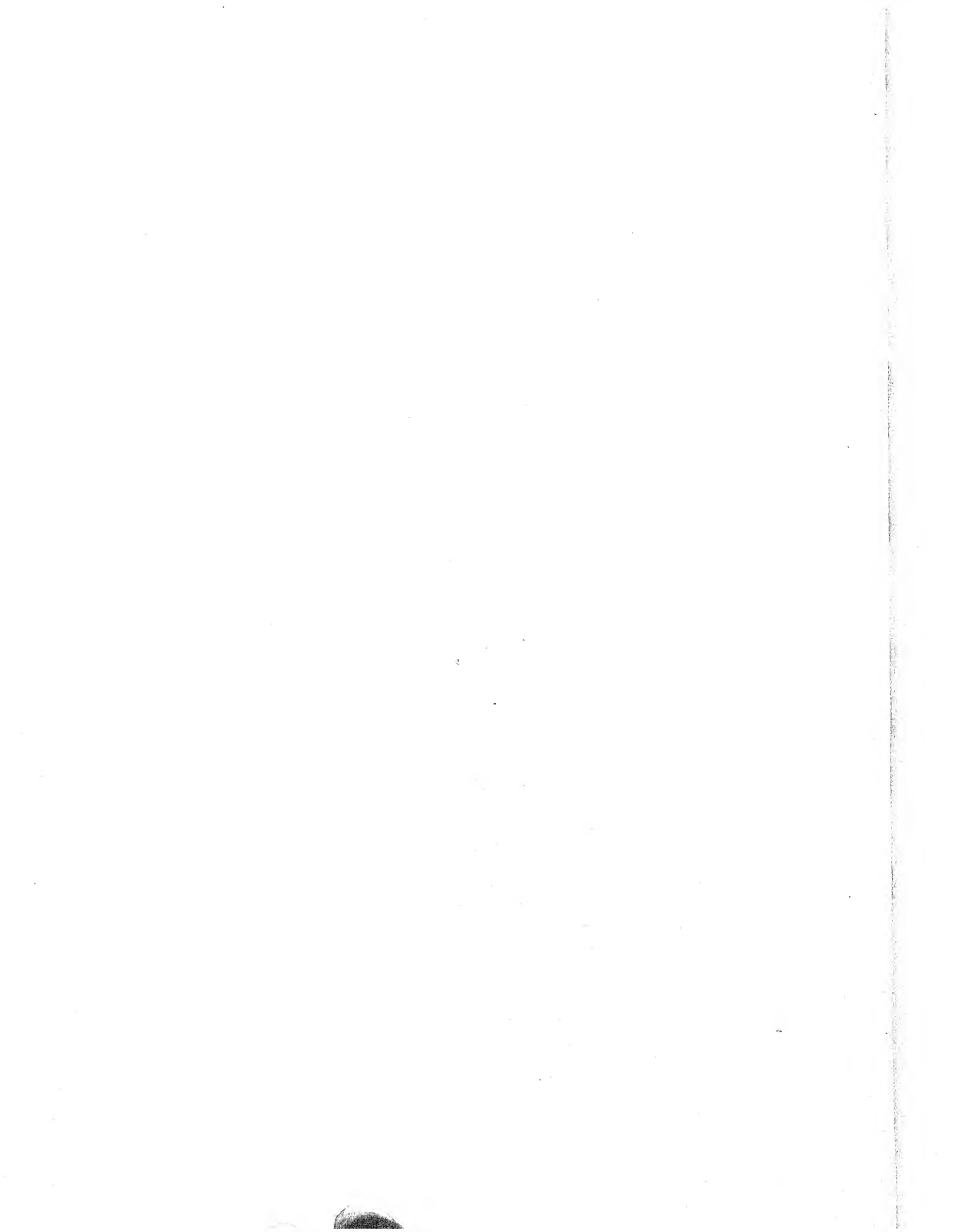
H. N. Dixon.

Muscineae.



W. Junk  
Berlin W 15  
1927





## Introductory Remarks.

By far the largest number of entries in the following list will be found to belong to quite recent geological periods; their claim to be considered "fossil" in the true sense being somewhat dubious. The number of undoubted mosses known from rocks earlier than the Tertiary is remarkably small. This is surprising in view of the presence in Carboniferous rocks of Hepaticae, very similar to existing species, having been clearly established (Walton, Carboniferous Bryophyta, 1, in Ann. of Bot., XXXIX, p. 563, t. XIII).

One would have supposed that mosses with their firmer, often almost ligneous tissues would have stood a better chance of preservation than the more delicate stems of the foliose Hepaticae; but this does not appear to have been the case. Certain scale-like structures from the coal measures have been supposed to be moss leaves, but apart from their unusual dimensions the cell structure does not appear to be bryophytic, and they resemble so closely the stipes scales of some modern ferns that the conclusion seems to me inevitable that they must be considered to represent some similar organ of the Carboniferous Fern-allies. *Muscites polytrichaceus* Ren. and Zeiller, however, has strong claims to be considered a true Carboniferous moss, and the same may be said of *Muscites Bertrandii* Lignier.

Records of fossil or prehistoric mosses, scattered throughout botanical and geological literature, often unindexed, are exceedingly hard to trace, and it is fairly certain that I have overlooked numerous sources of information. The list of works given in the Bibliography will however show what papers have actually been consulted, and make it possible for such gaps as exist to be readily filled up.

It may be of some use to make reference to certain works which are of general importance or which have critical remarks on species already recorded. Schimper's *Traité de Paléontologie végétale* (1869) gives a valuable résumé of most of the records of fossil mosses up to the time of its publication. Neuweiler, *zur Interglazialflora der Schweizerischen Schieferkohlen* (1905), has some useful critical notes on the fossil *Hypna* described by Schimper in the above work; and Caspary, in Klebs, *Flora d. Bernsteins* (1906), does the same for many of the records of mosses by Goeppert in his great work on the Amber Flora. Some valuable notes are to be found in Britton and Hollick, *American fossil mosses*, etc. (1907); and Weyland, *Beitr. zur Kenntnis fossiler Moose* (1925) clears up many points left doubtful by Engelhardt and Kinkel in their *Oberpliocäne Flora und Fauna des Untermainkalks* (1908).

I have endeavoured to indicate in general terms the stratigraphical origin of the recorded mosses as far as possible, where such origin is mentioned in the title or elsewhere in the paper. For the most part I have used the terms employed by the au-

thors. These frequently employ different terms for the same geological epoch. Such terms as Pleistocene, Quaternary, Diluvial, Recent, etc., therefore, must not be taken as necessarily denoting different periods.

The taxonomic arrangement of the following catalogue is (with one or two very slight departures) that of Brotherus in the *Musci*, Engler & Prantl, *Pflanzenfamilien*, Ed. I, 1898—1909.

The species under each genus are arranged alphabetically; the entries under each species chronologically. An index of synonyms is given at the end.

My thanks are due for assistance in the compilation of this list in many directions, notably to the Botanical and Geological Departments of the British Museum, especially to Mr. W. N. Edwards of the Geological Department. Also to Mrs. Britton of the New York Botanical Garden, Mons. J. Cardot of Paris, Prof. I. Györfy of Szeged, Hungary, Herr Loeske of Berlin, Dr. Docturovsky of Moscow, and Dr. Jongmans, for information about and transcripts from papers published in their respective countries to which I was unable to obtain access.

17, St. Matthew's Parade,

Northampton, England.

H. N. Dixon.

---



## Bibliography.

- Adám, Boros, Magyar Botanikai Lapok, Budapest; 1922, p. 71.  
 — Two fossil species of Mosses from the Diluvial Lime Tufa of Hungary. — *Bryologist*, XXVIII, p. 29; 1925.
- Andersson, Gunnar, Ueber das Fossile Vorkommen der *Brassenia purpurea* Mich. in Russland und Dänemark. — *Bihang Svensk. Vet.-Akad. Handl.*, Bd. 22, Afd. III, No. 1; 1896.
- Studier öfver Finlands Torfmossar och fossila Kwartärflora. — *Bull. de la Commission géologique de Finlande*, Tome 2, No. 8. Helsingfors; 1898.
- Augé, L., Note sur la végétation des tufs quaternaires de Piécourt (Gard). — *Bull. Soc. Etudes Sc. nat. Nîmes*, vol. XXXV, p. 65; 1908.
- Baker, Frank C., The life of the Pleistocene or glacial period. — *Univ. of Illinois Bull.* 17; 500 pp. 56 plates; 1920.
- Baumberger, E., Die diluvialen Schieferkohlen der Schweiz. — *Beitr. Geol. Schweiz. geotechn. Ser.*, Lief. 8; 1923. (cf. Gams, H., 1923.)
- Beck, R., und Weber, C. A., Ueber ein Torflager im älteren Diluvium des sächsischen Erzgebirges. — *Zeitschr. d. D. geolog. Ges.*, Bd. XLIX, p. 662; Berlin; 1897.
- Bell, A. M., Implementiferous Sections at Wolvercote (Oxfordshire). — *Quart. Journ. Geol. Soc.*, IX, p. 120; 1904.
- Behrendt, G. C. (& Goeppert), Die im Bernstein befindlichen organ. Reste der Vorwelt; Bd. 1, Abt. 1; Berlin; 1845.
- Bertrand, C. E., Description d'un échantillon de charbon papyracé ou Papierkohle trouvé à Prisches en 1859. — *Ann. Soc. Géol. du Nord*, XXVIII, p. 171; 1899.
- Beyle, M., Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Erster Teil. — *Jahrb. der Hamburg. wiss. Anst.* XXX, p. 83; 6 Beih.; 1913.
- Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. — *Jahrb. der Hamburg. wiss. Anst.*, XXXVI, p. 33; 1918.
- *Ibid.* Dritter Teil. — *Mitteil. aus dem Mineralog.-Geologisch Staatsinstitut*, Heft VI. Hamburg; 1924.
- Boulay, N., Flore pliocène du Mont-Dore. Paris; 1892.
- Braun, Al., Verzeichn. d. fossil. Pflanzen von Oeningen. — *Stizenberger, Uebersicht d. Verstein. Badens.* Freiburg; 1851.
- Britton, Elizabeth G., A new Tertiary Fossil Moss. — *Bull. Torr. Bot. Club*, XXVI: p. 79. New York; 1899.
- Britton, Elizabeth G., and Hollick, Arthur, American fossil mosses, with description of a new species from Florissant, Colorado. — *Bull. Torr. Bot. Club*, XXXIV: p. 139; 1907.
- A new American fossil moss. — *Bull. Torr. Bot. Club*, XLII: p. 9; 1915.

- Brongniart, Ad., Sur la Classification . . . des Végétaux Fossiles en Général. Chap. II. — Mém. du Mus. d'Histoire nat., viii; 1822.
- Histoire des végétaux fossiles. — Paris, 1828—1838.
- Brotherus, V. F., Fossile Bryales. — Engler & Prantl, Pflanzenfam., Musci, II, p. 1239; 1909. Ibid. Ed. II; II, p. 523; 1925.
- Burrell, W. H., Pennine Peat. — The Naturalist, 1924, p. 145.
- Camus, F., Sur les mousses trouvées dans le contenu de l'estomac d'un mammouth. — Compt. Rend. Acad. Sci. Paris, CLX, p. 842; 1915.
- Candler, Chas. Observations on some Undescribed Lacustrine Deposits at Saint Cross, South Elmham, in Suffolk. — Quart. Journ. Geol. Soc., XLV, p. 504; 1889.
- Casparry, Robert. See Klebs, 1906.
- Clerici, E. Contribuzione alla conoscenza dei capisaldi per la geologia dei dintorni di Roma. — Rend. Lincei, Roma, X, p. 77; 1901.
- Cockerell, T. D. A. The fossil flora of Florissant, Colorado. — Bull. amer. Mus. nat. Hist. XXIV, p. 71; 1908.
- A Redwood described as a Moss. — Torrey, VII: p. 203; 1907.
- Dawson, Sir Wm.: and Prof. D. P. Penhallow. On the Pleistocene Flora of Canada. — Bull. Geol. Soc. Amer. I: pp. 31, 332; 1890. (See also Trans. Roy. Soc. Canada, VIII, 1890).
- Dixon, H. N. Plant remains in peat. — Journ. of Bot., XXXIII, p. 216; 1895.
- See Lewis, F. J.; 1907, 1908 and 1911.
- Some "Neolithic" Moss remains from Fort William. — Ann. Scottish Nat. Hist., 1910, p. 103.
- See Warren, S. H.; 1912.
- Note on a moss in amber. — Journ. of Bot., LX, p. 149; 1922.
- Mnium antiquorum. — Bryologist, XIX, p. 51; 1916.
- See Reid, Clement; 1915.
- Moss Remains in Russian Peat. — Journ. of Bot., LXIII, p. 370; 1925. (& V. S. Docturovsky).
- Docturovsky, V. S., and Kudriashev, V. Results of Russian studies on peat moors. — Reports on Peat, 4; 1918—20.
- (1.) Les mousses participant à la formation des tourbières du Polessie (Gouv. de Moskva, etc.). — Rev. d'industr. de la tourbe, 3—4. Petrograd; 1916.
- (2.) Ueber die Stratigraphie der russ. Torfmoore. — Geol. Foren. i Stockholm Foerh., XLVII, 1—2; 1925.
- Docturovsky, V. S. See Dixon, H. N. (1925).
- Douin, R. Les mousses et les hépatiques fossiles des tuis du Lautaret (Hautes Alpes). — Revue Génér. de Bot., XXXV, p. 113; 1926.
- Engel, Th. Geognostischer Wegweiser durch Württemberg. 2<sup>e</sup> Aufl.; 1896. 3<sup>e</sup> Aufl.; 1908.
- Engelhardt, H., and Kinkel, F. Oberpliocäne Flora und Fauna des Untermaintals, insbesondere des Frankfurter Klärbeckens. — Abhandl. Senckenb. Naturf. Ges., XXIX, p. 151; 1908.
- (N. B. The references to the Figures on Plate 22 are given incorrectly in the text, and partially in the Reference to Plates. The references in the Erläuterung der Abbildung are correct with the exception of Figures 22, 23, which certainly

- do not represent the same plant as Figs. 18—21, or indeed any species of *Neckera*.)
- Ettingshausen, C. von. Die Tertiärflora von Haering. — Abhandl. d. geol. Reichsanstalt, Bd. II; Wien; 1852.
- Beitr. zur Kenntniss der fossilen Flora von Parschlug in Steiermark. I. Theil. — Denkschr. d. K. Akad. Wiss. Wien, Bd. XXXVIII, Abth. I, p. 81; 1877.
- Farnetti, R. Ricerche di briologia palaeontologica nelle torbe del sottosuolo pavese appartenenti al periodo glaciale. — Atti dell'Istituto Botanico della Reale Università di Pavia. Ser. II, vol. V; Milano; 1896.
- Fischer, Ed. Nachtrag zum Pflanzenverzeichniss des Inter-glacials von Pianico-Sellere. — Neues Jahrb. f. Mineralogie, Bd. II, p. 105; 1897.
- Fleischer, Max. Natürliches System der Laubmoose. — Hedwigia, LXI, p. 390; 1920.
- Gadeceau, E. Les Forêts submergées de Belle-Ile-en-mer. — Bull. Biologique de la France, etc., LIII, p. 276; (1919).
- Gams, H. See Heim, Arnold, 1918.
- Interglacial bryophytes, in Baumberger, etc. Die Schieferkohlen der Schweiz, B. 2, Geolog. Karte d. Schweiz, geotechn. Ser., Lief. 8; 1923.
- Geheeb, Adalbert. Ueber ein fossiles Laubmoos aus der Umgebung von Fulda. — Beihefte zum Bot. Centralbl., herausgeg. von Uhlworm und Kohl, Bd. X, Heft 3, p. 125; Kassel; 1901.
- Geinitz, C. und Weber, C. A. Ueber ein Moostorflager der post-glacialen Foehrenzeit am Seestrande der Rostocker Heide. — Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 1; 1904.
- Gepp, A. Fossil plant-remains in peat. — Journ. of Bot., XXXIII, p. 180; 1895.
- Goeppert, H. R. See Berendt, G. C.; 1847.
- Ueber die Bernsteinflora. — Monatsber. d. Berliner Akad., 1853, p. 450. (Issued also as a reprint with entirely different pagination).
- Goodchild, H. H. See Whitehead, H.; 1912.
- Grout, A. J. A Fossil *Camptothecium*. — Bryologist, XX, p. 9; 1917.
- Halle, T. G. A fossil Sporogonium from the Lower Devonian of Røragen in Norway. — Bot. Not., 1916, p. 79.
- Lower Devonian plants from Røragen in Norway. — Kgl. Svensk. Vet.-Akad. Handl., LVII, No. 1; 1916.
- Hartmann, F. Die Fossile Flora von Ingramsdorf. Inaug. Dissert. Breslau; 1907.
- Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. Avec Résumé. — Danmarks geologiske Undersøgelse, II Raekke, No. 11; Kjobenhavn; 1902.
- Bidrag til Danmarks tertiære og diluviale Flora. — Danmarks geologiske Undersøgelse, II Raekke, No. 20; Kjobenhavn; 1909.
- Hawkesworth, E. A pre-glacial Lake-bed near Northallerton. — Naturalist, 1912, p. 204.
- Hayden, F. V. Tertiary Flora of United States. — Rep. of U. S. A. Geol. Survey, VII; 1878. [Mosses by Lesquereux]. Ibid., VIII; 1883.
- Heer, Osw. Flora tertiaria Helvetiae; Zürich, 1855—1859.
- Die Urwelt der Schweiz. 1. Aufl. Zürich, 1865.

- Heim, Arnold & Gams, H. Interglaziale Bildungen bei Wildhaus (Kant. St. Gallen). — Vierteljahrsschr. Naturf. Ges. Zürich, LXIII: 19; 1918.
- Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. — Danmarks geologiske Undersøgelse, II Raekke, No. 25, p. 101; Kjøbenhavn; 1910.
- Hollick, A. See Britton, E. G.; 1907; and 1915.
- Hollos, Dr. L., in Kecssemét Multja ás Jelene; Kecsemét; 1896.
- Holst, N. O. Preglaciala Dryasförande inneslutningar i den undre moränen vid Bjäresjöholms tegelbruk nära Ystad. — Geol. Fören. Förh., XXIX, p. 228; 1907.
- Efterskörd från de senglaciala Lagren vid Toppeladugård. — Sver. Geologiska Undersökning Arsbok, II, No. 2; 1908.
- Holzinger, J. M. Some Fossil Mosses. — Bryologist, VI, 93; 1903.
- Jessen, Knud, og R. Rasmussen. Et Profil Gennem en Tørvemose paa Faerøerne [Section of a Bog in the Faeroe Is.]. — Danmarks geologiske Undersøgelse, IV Raekke, No. 13; 1922.
- Jongmans, W. J., in Mededeelingen van de Ryks Opsporing van Delstofften, No. 3. s'Gravenhage; 1911.
- Kinkel, F. See Engelhardt, H.; 1908.
- Kirchner, C. G. Walter. Contribution to the fossil flora of Florissant, Colorado. — Trans. Acad. of Science of St. Louis, VIII, p. 161; 1898.
- Klähm, Hans. Die Petrogenese der Kalktuffe nebst einigen sich daraus ergebenden geologischen Problemen. — Geol. Arch. 2: 298; 1923.
- Klebs, (and Caspary). Flora d. Bernsteins. — Abhandl. K. preuss. Geol. Landesanstalt, N. F., Heft 4; 1906. (With Atlas).
- Knowlton, F. H. Fossil Mosses. — Plant World, V, p. 243; 1902.
- A Review of the fossil plants in the U. S. National Museum from the Florissant lake beds at Florissant, Colorado, with description of new species and list of type specimens. — Proc. United States Nat. Mus. 51: 241; 1916.
- Koert, W., und Weber, C. Ueber ein neues interglaciales Torflager. — Jahrb. d. Königl. preuss. geologisch. Landesanstalt für 1899, p. 185. Berlin; 1900. [Mosses by Weber].
- Laurent, L. Flore plaisancienne des argiles cinéritiques de Mac (Cantal), avec une introduction Géol. — Annales du Musée d'Histoire naturelle de Marseille, — Géologie, Tome XII, p. 1; 1908.
- Flore pliocène des cinérites du Pas de la Mougudo et de Saint-Vincent-la-Sabie (Cantal) ..... — Ann. du Mus. Hist. nat. Marseille, Géol. tom. IX; 1904—1905. (Only a general reference to Muscites.)
- Lesquereux, Leo. See Hayden, F. V.; 1878.
- Lewis, Francis J. Summary of Progress for 1907. — Mem. Geol. Survey. [Mosses by Dixon].
- The Plant Remains in the Scottish Peat Mosses. Part III. — The Scottish Highlands and the Shetland Islands. — Trans. Roy. Soc. Edinb. XLVI, p. 33; 1908. [Mosses by Dixon].
- Ibid, Part IV. — Op. cit. XLVII, p. 793; 1911. [Mosses by Dixon].
- Lignier, O. Sur une mousse houillère à structure conservée. — Bull. Soc. Linn. Normandie, 6 Sér., VII, p. 128; 1914.

- Lindberg, Harald. Finska torimossar. — Finska Mooskultur-fören. Arsbok, Helsingfors; H. 2, p. 1—73; 1900.  
[I have been unable to consult this paper].
- Ludwig, R. Fossile Pflanzen aus der ältesten Abtheil. der Rheinisch-Wetterauer Tertiär-Formation. — Palaeontographica, VIII, pp. 39—181; 1859.
- Maffei, Luigi. Contributo allo studio della flora fossile del deposito lacustre de Pianico. — Atti Istit. Bot. Univ. Pavia, Ser. III, 1/2: p. 47; 1924.
- Marty, P. Flore miocène de Joursac (Cantal). — Rev. Haute Auvergne, Paris; 1903.
- Müller, G. und Weber, C. A. Ueber eine trühdiluviale und vorglacielle Flora bei Lüneburg. — Abhandl. Kgl. preuss. geologisch. Landesanstalt und Bergakademie; Heft 40; Berlin; 1904. [Palaeontologischer Teil by Weber].
- Neuweiler, E. Die prähistorischen Pflanzenreste Mitteleuropas mit besonderer Berücksichtigung der schweizerischen Funde. — Vierteljahrsschr. Naturforsch. Ges. Zürich, L. Heft 6, p. 23; 1905.
- Zur Interglazialflora der schweizerischen Schieferkohlen. — Ber. d. schweizerisch. bot. Ges., Heft XV; 1905. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 93.
- Nørregaard, E. M. Et senglacielt, opfyldt Vandøb fra Dejbjerg Bakker. — Meddel. fra Dansk geologisk Forening, No. 15, p. 317; 1909.
- Pax, F. Grundzüge der Pflanzenverbreitung in den Karpathen, II. Leipzig; 1908.
- Pelourde, F. Paléontologie végétale. Cryptogames cellulaires et crypt. vasculaires. — Paris, 1914.
- Penhallow, D. P. See Dawson, Sir Wm.; 1890.
- Canadian Pleistocene Flora of the Don Valley. — Report of 70th Meeting of Brit. Assoc., Bradford, Sept. 1900. Pt. II, p. 334.
- Report on Tertiary plants of British Columbia collected by Mr. Lawrence M. Lambe in 1906, together with a discussion of previously recorded Tertiary floras. — Canada Dept. of mines, Geol. Survey branch, No. 1013; 1908.
- Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone. — Zeitschr. f. Naturwiss., Bd. LXXVI, p. 161; Stuttgart; 1903.
- Rasmussen, R. See Jessen, Knud.; 1922.
- Reid, C., and Ridley, H. N. Fossil Arctic Plants from the Lacustrine Deposit at Hoxne, in Suffolk. — Geol. Mag., Decade III, Vol. V, p. 441; 1888.
- East Norfolk Geology. — Trans. Norfolk & Norw. Naturalists' Soc., VII, p. 290; 1904.
- See Whitehead, H.; 1912.
- and E. M. The Pliocene Floras of the Dutch Prussian Border. — Med. van de Rijksopspor. van Delfstoffen, No. 6; 1915. [Mosses by Dixon].
- Reid, E. M. Two preglacial Floras from Castle Eden. — Quart. Journ. of Geol. Soc., LXXVI, p. 104; 1920.
- Renault, B. and Zeiller, R. Sur des Mousses de l'époque houillère. — Compt. Rend. Acad. Sci. Par., C, p. 660; 1885.
- Flore fossile du terrain houiller de Commeny. — Bull. Soc. Industr. Min.; Saint-Etienne; 1888.
- Rudolph, K. Untersuchungen über den Aufbau böhmischer Moore. — Abhandl. k. k. zoolog.-bot. Gesellsch. Wien, IX, p. 4; 1917.

- Saporta, le comte Gaston de. Etudes sur la végétation du Sud-Est de la France. — *Annales des Sci. nat. Par.*, 4<sup>e</sup> sér. XVII, p. 191; 1862, do., XIX, p. 5; 1863. 5<sup>e</sup> sér. III, p. 5; 1865. do., IV, p. 5; 1865. (Published later as a separate work, in 2 vols., with fresh pagination; cited in list below as *Etudes*, I, p. 24, etc.)
- Schilbersky, K., in *Kecskemét Multja ás Jelene*; *Kecskemét*; 1896.
- in *Term. tud. Közlöny*, XXX, p. 436; Budapest; 1898.
- Ein Laubmoos aus dem Pleistocän von Kecskemét. — *Mathem. Term. tud. Értesítő*, Bd. XXX, p. 632; 1912. (Ungarisch.)
- Schimper, W. P. *Traité de Paléontologie Végétale*. I. Paris, 1869.
- Schuster, J. *Paläobotanische Notizen aus Bayern*. — *Ber. bayer. bot. Gesellsch.*, XII, I, p. 44; 1909;
- Seward, A. C. *Fossil Plants*. Vol. I. Cambridge; 1898.
- Sismonda, E. Matériaux pour servir à la Paléontologie des terres tertiaires du Piémont; 1865.
- Stark, P. Beitr. zur Kenntniss der eiszeitlichen Flora und Fauna Badens. — *Ber. Naturforsch. Gesellsch. Freiburg i. Baden*, XIX, pp. 153—272; 1912. (Separately paged, 1—115).
- Stollér, J. Beitr. zur Kenntnis der diluvialen Flora (besonders Phanerogamen) Norddeutschlands. — *Jahrb. d. Königl. preuss. geologisch. Landesanstalt*, XXIX, p. 102; 1908.
- Die Pflanzenreste des altdiluvialen Torflagers in den Stuttgarter Anlagen. — *Mitteil. der geolog. Abt. des K. württ. stat. Landesamts*, No. 6. Beilage zu *Jahresh. des Vereins für vaterl. Naturkunde in Württemberg*, Jahrg. LXV, 73; 1909.
- Die Flora der jungglazialen Ablagerungen Ostpreussens. — *Jahrb. d. Königl. preuss. geologisch. Landesanstalt*, XXXI, T. II, H. 1, p. 120; 1911.
- Beitr. zur Kenntnis der diluvialen Flora (besonders Phanerogamen) Norddeutschlands. II. Lauenburg a. Elbe (Kuhgrund). — *Jahrb. d. Königl. preuss. geologisch. Landesanstalt*, XXXII, T. 1, H. 1, p. 109; 1911.
- Sukačev, V. N. Sur la trouvaille de la flore arctique fossile sur la rive du fleuve Irtyche près du village Demianskœe, gouv. Tobolsk. — *Bull. Acad. Impér. Sci. St. Pétersbourg*, 1910, p. 457.
- Szafer, W. Eine Dryasflora bei Krystynopol in Galizien. — *Bull. internat. Acad. Sci. Cracovie*, Sér. B 2, 1912, p. 1105.
- Travis, W. G. Plant remains in peat ..... at Aintree. — *Trans. Liverpool Bot. Soc.*, I; 1909.
- On peaty bands in the Wallasey sandhills. — *Proc. Liverpool Geol. Soc.*, III, p. 207; 1922.
- Travis, C. B. and W. G. On plant remains in post-glacial gravels at Seaforth, Liverpool. — *Lancashire Naturalist*, 1913, p. 49.
- Unger, Fr. *Genera et Species Plantarum Fossilium*; 1850, p. 41.
- *Iconographia plantarum fossilium*. — *Denkschr. d. k. k. Akad. d. Wissensch.*; Wien, 1852.
- Vonderau, Joseph. Pfahlbauten im Fuldathale. — I. *Ergänzungsheft des Vereins für Naturkunde zu Fulda. Veröffentlichung des Fuldaer Geschichts-Vereins*. Fulda, 1899.
- [I have not been able to see this paper].

- Warren, S. H. A late Glacial stage in the Lea Valley. — Quart. Journ. Geol. Soc., LXVIII, p. 213; 1912.  
[Mosses by Dixon].
- Weber, C. See Koert, W., 1900.
- Weber, C. A. See Beck, R.; 1897.
- See Geinitz, C., 1904.
- See Müller, G.; 1904.
- Die Moostorfschichten im Steilufer der Kurischen Nehrung zwischen Sarkau und Crantz. — Engler's Bot. Jahrb., XLII, p. 38; 1908.
- *Hypnum turgescens* Schimp. nicht auf der Kurischen Nehrung fossil. — Engler's Bot. Jahrb., XLII, p. 239; 1908.
- Die Mammutflora von Borna. — Abhandl. Nat. Ver. Bremen, Bd. XXIII, Heft 1, p. 1; 1914.
- Die Pflanzenwelt des Rabutzer Beckentons und ihre Entwicklung unter Bezugnahme auf Klima und geologische Vorgänge. — Bot. Jahrb. Syst. LIV, Beibl. Nr. 120, p. 3; 1917.
- Weber, C. Otto. Die Tertiärflora der niederrhein. Braunkohlenformation. — Palaeontographica, II, p. 115; Cassel; 1852.
- Wessel, P. & Weber, C. O. Neuer Beitr. zur Tertiärflora der niederrhein. Braunkohlenformation. — Palaeontographica, IV, p. 111; 1856.
- Weyland, H. Beitr. zur Kenntnis fossiler Moose. I. Die Moose der oberpliocänen Flora des Frankfurter Klärbeckens. — Senckenbergiana, Bd. VII, Heft 1/2. Frankfurt a. M.; 1925.
- Whitehead, H., Goodchild, H. H., and Reid, C. Some notes on "moorlog" — a peaty deposit from the Dogger Bank in the North Sea, with report on the Plant remains. — Essex Naturalist, XVI, p. 51; 1912.
- Zeiller, R. See Renault, B. 1885, and 1888.
- Le Progrès de la Paléobotanique de l'ère des Gymnospermes. — Progressus Rei Botanicae, II, p. 179; 1908. "Quant aux Mousses, il n'en a toujours pas été signalé dans les couches secondaires, les Najadites du Rhétien d'Angleterre ..... appartenir aux Lycopodiacees."
- Zmuda, A. J., in Szafer, Ueber eine alt-diluviale Flora in Krystynopol in Wolhynien. — Kosmos, XXXVI, p. 337; 1911.
- Fossile Flora des Krakauer Diluviums. — Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 209; 1914.
-

# Sphagnaceae.

## Sphagnum Ehrh.

### Sphagnum acutifolium Ehrh.

- 1896 *Sphagnum acutifolium* aggr. Farneti, R. Ricerchè di briologia palaeont. [Atti del Istit. Bot. della Reale Univ. di Pavia, Ser. II, vol. V, p. 58.] Recent
- 1904 *Sphagnum acutifolium* aggr. Weber, C. A. in Müller G. und Weber. Ueber eine frühdiluviale... Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 15.] Preglacial
- 1909 *Sphagnum acutifolium*. Hartz, N. Bidr. til Danmarks tertiaere... Flora. [Danmarks geol. Undersøgelse. II Raekke, No. 20, p. 261.] Interglacial
- 1909 *Sphagnum* cf. *acutifolium*. Schuster, J. Palaeobot. Not. aus Bayern. [Ber. bayer. bot. Gesellsch., XII, I, p. 58.]
- 1917 *Sphagnum acutifolium* aggr. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons... [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 13.]
- 1918 *Sphagnum* ? *acutifolium*. Beyle, M. Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst., XXXVI, p. 41 ter.] Recent

### Sphagnum compactum De Cand.

- 1828—1844 *Sphagnum compactum*. Brongniart, Ad. Hist. des végétaux fossiles. Paris, p. 96, tab. X. No locality or data given

### Sphagnum cuspidatum Ehrh.

- 1896 *Sphagnum cuspidatum*. Farneti, R. Ricerche di briologia palaeont. [Atti del Istit. Bot. della Reale Univ. di Pavia, Ser. II, vol. V, p. 58.] Recent
- 1904 *Sphagnum cuspidatum* aggr. Weber, C. A. in Müller G. und Weber. Ueber eine frühdiluviale... Flora bei Lüneburg. [Abh. Kgl. preuss. geologisch. Landesanstalt und Bergakad.; Heft 40, p. 15.] Preglacial
- 1909 *Sphagnum* cf. *cuspidatum*. Schuster, G. Palaeobot. Not. aus Bayern. [Ber. bayer. bot. Gesellsch., XII, I, p. 58.]
- 1914 *Sphagnum cuspidatum*. Weber, C. A. Die Mammutflora von Borna. [Abh. nat. Ver. Bremen, XXIII, Heft I, p. 14.] Glacial



- 1917 *Sphagnum cuspidatum*. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Gesellsch. Wien, IX, p. 86.] Recent  
 1924 *Sphagnum cuspidatum*. Burrell, W. H. Pennine Peat. [Naturalist, 1924, p. 148.] Recent

### ***Sphagnum cymbifolium* Ehrh.**

- 1869 *Sphagnum cymbifolium*. Schimper, W. P. Traité de Paléontologie Végétale. I, p. 253. Quaternary; Lignites, Dürnten, Switzerland  
 1895 *Sphagnum cymbifolium*. Gepp, A. Fossil plant-remains in peat. [Journ. of Bot., XXXIII, p. 181.] Recent submarine peat.  
 1897 *Sphagnum cymbifolium* or near it. Beck, R., und Weber, C. A. Ueber ein Torflager.... des sächsisch. Erzgebirges. [Zeitschr. d. Deutsch. geolog. Gesellsch., XLIX, p. 666.] Diluvial  
 1899 *Sphagnum cymbifolium*. Bertrand, C. E. Descr... de charbon papyracé ..... à Prisches en 1859. Ann. Soc. géol. du Nord, XXVIII, p. 180.] Pleistocene  
 1904 *Sphagnum cymbifolium* aggr. Weber, C. A. in Müller, G. und Weber, Ueber eine frühdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geologisch. Landesanstalt und Bergakad., Heft 40, p. 15.] Preglacial  
 1905 *Sphagnum cymbifolium*. Neuweiler, E. Die prae-hist. Pflanzenreste Mitteleuropas... [Vierteljahrs. Naturforsch. Ges. Zürich, I, Heft 6, p. 94.]  
 1909 *Sphagnum cymbifolium*. Hartz, N. Bidr. til Danmarks tertiære.... Flora.... [Danmarks geol. Undersøgelse II Raekke, No. 20, p. 261.] Interglacial  
 1912 *Sphagnum cf. cymbifolium*. Whitehead, H., Goodchild, H. H., and Reid, C. Some notes on "moorlog" ..... [Essex Naturalist, XVI, p. 56.] Moorlog-submarine peat from Dogger Bank, North Sea  
 1913 *Sphagnum cymbifolium*. Beyle, M. Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6 Beih., p. 83.] Recent  
 1917 *Sphagnum palustre* Linn. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Gesellsch. Wien, IX, p. 86.] Recent  
 1923 *Sphagnum cymbifolium*. Baumberger, E., etc., Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz; geotechn. Ser., Lief. 8, pp. 83, 338.] Quaternary,  
 1924 *Sphagnum cymbifolium*. Burrell, W. H. Pennine Peat. [Naturalist, 1924, p. 148.] Recent

### ***Sphagnum fimbriatum* Wils.**

- 1908 *Sphagnum fimbriatum* (or *teres*). Stoller, J. Beitr. zur Kenntn. der diluv. Flora... Norddeutschlands. [Jahrb. d. Kgl. preuss. geolog. Landesanstalt, XXIX, p. 119.] Diluvial

- 1910 *Sphagnum fimbriatum* (or *Girgensohnii*). Dixon, Postglacial  
H. N. Some "Neolithic" Moss remains from Fort  
William. [Ann. Scott. Nat. Hist., 1910, p. 103.]
- 1912 *Sphagnum fimbriatum*. Stark, P. Beitr. zur Glacial  
Kennntn. der eiszeitlich. Fl. und Faun. Badens.  
[Ber. naturforsch. Gesellsch. Freiburg i. B., XIX,  
p. 88.]

### ***Sphagnum Girgensohnii* Rüss.**

cf. *S. fimbriatum* (1910).

### ***Sphagnum imbricatum* (Hornsch.) Rüss.**

- 1914 *Sphagnum imbricatum*. Weber, C. A. Die Mam- Glacial  
mutflora von Borna. [Abh. Nat. Ver. Bremen,  
XXIII, Heft 1, p. 15.]

### ***Sphagnum intermedium* Hoffm.**

cf. *S. recurvum*.

### ***Sphagnum Lindbergii* Schimp.**

- 1918—20 ? *Sphagnum Lindbergii*. Docturovsky, V. S., Interglacial  
and Kudriashev, V. Results of Russian studies on  
peat moors. [Reports on Peat, 4.]

### ***Sphagnum Ludwigii* Schimp.**

- 1869 *Sphagnum Ludwigii* Schimp., Traité de Paléon- Tertiary  
tologie Végétale, p. 252. (*Gymnostomum ferrugi-*  
*neum* Ludw., Foss. Pflanzen aus der . . . . Rhein-  
isch . . . . Tertiär-Formation, in Palaeontographica,  
VIII, p. 165, tab. 63; 1859.)

Note. Schimper places it between *S. cymbi-*  
*folium* and *S. subsecundum*. It is highly im-  
probable that it is distinct from one of the  
existing species. Its origin is "dans l'hématite  
brune de Dernbach (Nassau)". Seward (Fossil  
Plants, I, p. 241) expresses a doubt as to whether  
the generic position can be satisfactorily deter-  
mined. Schimper, however, had presumably exa-  
mined the specimen.

### ***Sphagnum magellanicum* Brid.**

- 1898 *Sphagnum medium* Limpr. Andersson, Gunnar. Quaternary  
Stud. öfver Finlands . . . Kvartärflora. [Bull. de  
la Commission géol. de Finlande, Tome 2, No. 8,  
p. 138.]
- 1904 *Sphagnum medium* Limpr. Weber, C. A. in Mül- Preglacial  
ler, G. und Weber, Ueber eine frühdiluviale . . .  
Flora bei Lüneburg. [Abh. Kgl. preuss. geologisch.  
Landesanstalt und Bergakad., Heft 40, pp. 15,  
18.]
- 1917 *Sphagnum magellanicum*. Rudolph K. Recent  
über den Aufbau böhmisch. Moore. [Abh. k. k.  
zool.-bot. Gesellsch. Wien, IX, p. 86.]

- 1917 *Sphagnum medium* Limpr. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons ..... [Bot. Jahrb. Syst. LIV, Beibl. No. 120, p. 14.]

### ***Sphagnum medium* Limpr.**

cf. *S. magellanicum*.

### ***Sphagnum palustre* Linn.**

cf. *S. cymbifolium*.

### ***Sphagnum papillosum* Lindb.**

- 1909 *Sphagnum papillosum*. Hartz, N. Bidr. til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelser, II Raekke, No. 20, p. 261.] Interglacial
- 1914 *Sphagnum papillosum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 15.] Glacial
- 1924 *Sphagnum papillosum*. Burrell, W. H. Pennine Peat. [The Naturalist, 1924, p. 148, tab. X.] Recent

### ***Sphagnum recurvum* P. Beauv.**

- 1898 *Sphagnum recurvum*. Andersson. Gunnar. Stud. öfver Finlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 138.] Quaternary,
- 1904 *Sphagnum cf. recurvum*. Weber C. A., in Müller G. und Weber, Ueber eine frühdiluviale ..... Flora bei Lüneburg. [Abh. Kgl. preuss. geolog. Landesanstalt und Bergakad., Heft 40, p. 15.] Preglacial
- 1911 *Sphagnum intermedium* Hoffm. Dixon, H. N. in Lewis, F. J., The Plant Remains in the Scottish Peat Mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.] Recent, Iceland peat.
- 1917 *Sphagnum recurvum* var. *parvifolium* Warnst. (as *S. brevifolium* Röhl). Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Gesellsch. Wien, IX, p. 87.] Recent

### ***Sphagnum rubellum* Wils.**

- 1898 *Sphagnum rubellum*. Andersson, Gunnar. Stud. öfver Finlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 139.] Quaternary,
- 1917 *Sphagnum Wilsoni* Röhl. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 87.] Recent

### ***Sphagnum squarrosum* Pers.**

- 1896 *Sphagnum squarrosum*. Farneti, R. Ricerche di briologia palaeont. [Atti del Istit. Bot. della Reale Univ. di Pavia, Ser. II, vol. V, p. 57.] Glacial

### ***Sphagnum subbicolor* Hampe.**

- 1923 *Sphagnum subbicolor*. Baumberger, E., etc. Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz; geotechn. Ser., Lief. 8, p. 83.] Quaternary

**Sphagnum subsecundum** Nees aggr.

- 1895 *Sphagnum* ? *subsecundum*. Gepp, A. Fossil plant-remains in peat. [Journ. of Bot., XXXIII, p. 181.] Recent sub-marine peat.
- 1908 *Sphagnum subsecundum*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 119.] Diluvial

**Sphagnum teres** Aongstr.

- 1904 *Sphagnum teres*. Weber, C. A., in Müller, G. und Weber, Ueber eine fröhdiluviale .... Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 15 bis.] Preglacial
- 1908 *Sphagnum teres* (or *fimbriatum*). Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 119.] Diluvial
- 1912 *Sphagnum teres*. Stark, P. Beitr. zur Kenntn. des eiszeitlich. .... Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, pp. 88, 116.] Glacial
- 1918—20 *Sphagnum teres*. Docturrowsky, V. S., and Kudriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Postglacial
- 1925 *Sphagnum teres*. Dixon, H. N. Moss remains in Russian Peat. (Journ. of Bot., LXIII, p. 370.) Interglacial

**Sphagnum Wilsoni** Röhl.

cf. *S. rubellum*.

**Undetermined species of Sphagnum.**

- 1852 *Cryptothecium antediluvianum*. Hueben., MS., nov. gen. et sp., in Weber, C. Otto. Die Tertiärflora der niederrhein. Braunkohlenformation. [Palaeontographica, 11, p. 228.] This is considered by Schimper as without doubt a species of *Sphagnum*.
- 1903 *Sphagnum* sp. Range, Paul. Das Diluv. von Lübeck und seine Dryastone. [Zeitschr. f. Naturwiss., LXXVI, pp. 191, 256.] Diluvial
- 1904 *Sphagnum* sp. Weber, C. A., in Müller, G. und Weber, Ueber eine fröhdiluviale .... Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 15.] Preglacial
- 1909 *Sphagnum* sp. Hartz, N. Bidr. til Danmarks tertiære .... Flora. [Danmarks geol. Undersögelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *Sphagnum* sp. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersögelse, II Raekke, No. 25, p. 106.] Diluvial
- 1913 *Sphagnum* sp. Travis, C. B. and W. G. On plant remains in postglacial gravels at Seaforth, Liverpool. [Lancashire Naturalist, 1913, p. 20.] Postglacial
- 1914 *Sphagnum* sp. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-

- covie d. sc. math. et nat., Sér. B. No. 2 B,  
 p. 248.]  
 1918 *Sphagnum* sp. Beyle, M. Ueber einige Ablage- Recent  
 rungen fossiler Pflanzen der Hamburger Gegend.  
 Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst.,  
 XXXVI, p. 39.]  
 1918—20 *Sphagnum* sp. (§ Subsecunda). Docturovsky, Interglacial  
 V. S. and Kudriashev, V. Results of Russian  
 studies on peat moors. [Reports on Peat, 4.]  
 1920 *Sphagnum* sp. Baker, Frank C. The Life of the Glacial  
 Pleistocene or Glacial period. [Univ. of Illinois,  
 Bull., XVII, pp. 207, 211, 276, 280, 377.]  
 1923 *Sphagnum* sp. Baumberger, E., etc. Die diluv. Quaternary  
 Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz;  
 geotechn. Ser., Lief. 8, p. 338.]

## Andreaeaceae.

### Andreaea Ehrh.

#### Andreaea Huntii Limpr.

- 1912 *Andreaea Huntii*. Stark, P. Beitr. zur Kenntn. Glacial  
 der eiszeitlichen Fl. und Fauna Badens. [Ber.  
 naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.]

#### Andreaea petrophila Ehrh.

1914. *Andreaea petrophila*. Zmuda, A. J. Fossile Flora Diluvial  
 des Krakauer Diluviums. [Bull. int. Acad. Sci.  
 Cracovie d. sc. math. et nat., Ser. B., No. 2 B,  
 p. 248.]

#### Andreaea Rothii Web. & Mohr.

- 1910 *Andreaea Rothii*. Dixon, H. N. Some "Neolithic" Postglacial  
 Moss remains from Fort William. [Ann. Scott.  
 Nat. Hist., 1910, p. 103.]

#### Andreaea sp.

cf. *Sporogonites exuberans*.

## Dicranaceae.

### Ditrichum Timm.

#### Ditrichum flexicaule (Schleich.) Hampe.

- 1902 *Ditrichum flexicaule*. Hartz, N. Bidr. til Danmarks Lateglacial  
 senglacial Flora og Fauna. [Danmarks geol. Un-  
 dersøgelse, II Række, No. 11, p. 11.]  
 1909 *Ditrichum flexicaule*. Hartz, N. Bidr. til Dan- Interglacial  
 marks tertiaere ..... Flora [Danmarks geol. Un-  
 dersøgelse, II Række, No. 20, p. 260.]

- 1910 *Ditrichum flexicaule*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Diluvial
- 1912 *Ditrichum flexicaule* var. *densum*. Dixon, H. N. in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1918—20 *Ditrichum flexicaule*. Docturovsky, V. S., and Kudriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Postglacial

### ***Ditrichum tortile* (Schrad.) Lindb.**

- 1915 *Ditrichum tortile*. Reid, C. and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.] Pliocene

Note. With fragment of seta.

## ***Distichium* Bry. eur.**

### ***Distichium capillaceum* (Sw.) Bry. eur.**

- 1900 *Distichium capillaceum*. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley. [Rep. of 70 th Meeting of Brit. Assoc., Bradford, Sept., 1900, Pt. II, p. 335.] Pleistocene
- 1903 *Distichium capillaceum*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone. [Zeitschr. f. Naturwiss., LXXVI, p. 253.] Diluvial
- 1907 *Swartzia montana* Lindb. Host, N. O. Preglaciala Dryasförande ..... nära Ystad. [Geol. Fören. Förh., XXIX, p. 232.] Preglacial
- 1909 *Swartzia montana* Lindb. Hartz, N. Bidr. til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *Swartzia montana* Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Diluvial
- 1912 *Distichium capillaceum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1914 *Distichium capillaceum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial
- 1914 *Distichium capillaceum*. Weber, C. A. Die Mammutflora von Borna. [Abh. nat. Ver. Bremen, XXIII, Heft I, p. 15.] Glacial
- 1920 *Distichium capillaceum*. Baker, Frank C. The Life of the Pleistocene or Glacial period. [Univ. of Illinois, Bull. XVII, pp. 334, 335, 377.] Glacial

Note. The text reads: —

*Dichelyma capillaceum* (see *Distichium capillaceum*)

*Distichium* (*Dichelyma*) *capillaceum*. As both species occur at the present day in the U. S. A., there is nothing to indicate which name is the species intended.

**Ceratodon Brid.****Ceratodon purpureus (L.) Brid.**

- 1898 *Ceratodon purpureus*. Andersson, Gunnar. Stud. öfver Finlands ..... Kvärtärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.] Quaternary
- 1902 *Ceratodon purpureus*. Hartz, N. Bidrag til Danmarks geol. Undersøgelse, II Række, No. 11, p. 15.] Late glacial
- 1909 *Ceratodon purpureus*. Hartz, N. Bidr. til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Række, No. 20, p. 260.] Interglacial
- 1910 *Ceratodon purpureus*. Hesselbo, A. Mosreste fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Række, No. 25, p. 108.] Diluvial
- 1912 ? *Ceratodon purpureus*. Dixon, H. N. in Warren, S. H., A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1914 *Ceratodon purpureus* var. *paludosus* Warnst. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

**Blindia Bry. eur.****Blindia acuta (Huds.) Bry. eur.**

- 1910 *Blindia acuta* var. *trichodes* Braithw. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 103.] Postglacial
- 1912 *Blindia acuta*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

**Dicranella Schimp.****Dicranella cerviculata (Hedw.) Schimp.**

- 1914 *Dicranella cerviculata*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

**Dicranella squarrosa (L.) Schimp.**

- 1914 *Dicranella squarrosa*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 88.] Diluvial

**Dicranella sp.**

- 1853 *Dicranum simplex* Goepp. & Menge. Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.] Amber
- Note. Compared by the authors to *Dicranum Schreberi* (*Dicranella*).

- 1907 *Dicranella* sp. Hartmann, F. Die Fossile Flora Diluvial von Ingramsdorf. Inaug. Dissert. Breslau, 1907, p. 14.

## **Oreoweisia De Not.**

### **Oreoweisia serrulata (Funck) De Not.**

- 1912 *Oreoweisia serrulata*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.]

## **Dichodontium Schimp.**

### **Dichodontium pellucidum (L.) Schimp.**

- 1904 *Dichodontium pellucidum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial  
 1910 *Dichodontium pellucidum*. Dixon, H. N. Some Postglacial "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 103.]  
 1923 *Dichodontium pellucidum* var. *fagimontanum* Schimp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz; geotechn. Ser., Lief. 8, p. 333.] Quaternary

### **Dichodontium subpellucidum (Goepp. & Menge)**

- 1853 *Dicranum subpellucidum* Goepp. & Menge in Goepp., H. R. Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.] Amber

## **Dicranoweisia Lindb.**

### **Dicranoweisia crispula (Hedw.) Lindb.**

- 1912 *Dicranoweisia crispula*. Stark, P. Beitr. zur Kenntn. der eiszeitl. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.] Glacial

## **Oncophorus Brid.**

### **Oncophorus virens (Sw.) Brid.**

- 1910 *Oncophorus virens*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Diluvial  
 1912 *Oncophorus virens*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.] Glacial

## **Dicranum Hedw.**

### **Dicranum Bergeri Bland.**

- 1912 *Dicranum Bergeri* (as *Dicranella Bergeri*, lapsu calami). Stark, P. Beitr. zur Kenntn. der eis-



zeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

### **Dicranum Bonjeani** De Not.

- 1909 *Dicranum Bonjeani*. Hartz, N. Bidr. til Danmarks tertiaere . . . . Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial
- 1910 *Dicranum Bonjeani*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 103.] Postglacial

### **Dicranum congestum** Brid.

- 1910 *Dicranum congestum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Diluvial

### **Dicranum fuscescens** Turn.

- 1853 *Dicranum fuscescens*. Goepfert, H. R. Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.] Amber
- Note. "Von *D. fuscescens* nicht zu unterscheiden". Goepf. l. c.

### **Dicranum Mühlenbeckii** Bry. eur.

- 1912 *Dicranum Mühlenbeckii* (as *Dicranella*, lapsu calam). Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.] Glacial

### **Dicranum parietinum**.

- 1909 *Dicranum parietinum*. Hartz, N. Bidr. til Danmarks tertiaere . . . . Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] There is no moss known of this name, and an error is presumable; possibly *Hylocomium parietinum* is intended.

### **Dicranum Sauteri** Bry. eur.

- 1912 *Dicranum Sauteri* (as *Dicranella*, lapsu calam). Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

### **Dicranum scoparium** (L.) Hedw.

- 1909 *Dicranum scoparium*. Hartz, N. Bidr. til Danmarks tertiaere . . . . Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial
- 1912 *Dicranum scoparium*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 116.] Glacial

- 1914 *Dicranum scoparium* var. *alpestre* Milde. Zmuda, Diluvial  
A. J. Fossile Flora des Krakauer Diluviums. [Bull.  
int. Acad. Sci. Cracovie d. sc. math. et nat.,  
Sér. B., No. 2B, p. 248.]

### ***Dicranum Scottianum* Turn.**

- 1910 *Dicranum Scottianum*. Dixon, H. N. Some "Neo- Postglacial  
lithic" Moss remains from Fort William. [Ann.  
Scott. Nat. Hist., 1910, p. 105.]

### ***Dicranum strictum* Schleich.**

- 1911 *Dicranum strictum* ? Dixon, H. N. in Lewis, F. J. Iceland  
The Plant Remains in the Scottish Peat Mosses. peat; recent  
Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.]  
Note. Almost certainly this species; but the  
specimen was unfortunately lost in the post before  
the determination was confirmed.

### ***Dicranum subflagellare* Goepp. & Menge.**

- 1853 *Dicranum subflagellare*. Goepp. & Menge in Goepp., Amber  
H. R. Ueber die Bernsteinflora. [Monatsber. d.  
Berliner Akad., 1853, p. 458.]  
Note. The authors say "cf. *D. flagellare*".  
Syn. *Dicranites subflagellare* Caspary & Klebs,  
Flora d. Bernsteins. [Abh. Kgl. preuss. geol.  
Landesanst., N. F., Heft 4, p. 55, t. VIII, p. 47;  
1903.] There seems no adequate ground for re-  
moving this from *Dicranum*.

### ***Dicranum subpellucidum* Goepp. & Menge.**

cf. *Dichodontium subpellucidum*.

### ***Dicranum subscoparium* Goepp. & Menge.**

- 1853 *Dicranum subscoparium*. Goepp. & Menge in Goepp. Amber  
pert, H. R. Ueber die Bernsteinflora. [Monatsber.  
d. Berliner Akad., 1853, p. 458.]  
Note. The authors say "cf. *D. scoparium*".

### ***Dicranum* spp. undetermined.**

- 1897 *Dicranum* sp. (*Eudicranum*). Beck, R. und Weber, Diluvial  
C. A. Ueber ein Torflager .... des sächsisch.  
Erzgebirges. [Zeitschr. d. Deutsch. geol. Gesellsch.,  
XLIX, p. 666.]  
1898 *Dicranum* sp. Andersson, Gunnar. Stud. öfver Quaternary  
Finlands ..... Kvartärflora. [Bull. de la Com-  
mission géol. de Finlande, Tome 2, No. 8, p. 136.]

### ***Dicranites* Klebs.**

- 1903 *Dicranites* gen. nov. Klebs in Caspary, Fl. d.  
Bernsteins [Abh. Kgl. preuss. geol. Landesanst.,  
N. F., Heft 4, p. 52; 1903.]

Klebs gives no diagnosis of this genus, but states that it consists of species not certainly referable to any existing species, while clearly belonging to Dicranaceae in the widest sense.

### **Dicranites Casparyi Klebs.**

- 1903 *Dicranites Casparyi* Klebs, op. et loc. cit., t. VII, Amber f. 42—45.

Compared with such erect-leaved forms as *Dicranum Scottianum*, and *Campylopus flexuosus*. The leaf apex figured, with a few short teeth, does not suggest a species of this alliance at all.

### **Dicranites obtusifolius Casp. & Klebs.**

- 1903 *Dicranites obtusifolius* Casp. & Klebs, op. cit., Amber p. 54, t. VII, f. 46.

The form of the leaf with toothed sheathing base strongly suggests *Eucladium verticillatum*; but the leaf apex is figured as rough, and described as "an der stumpfen Spitze sägezähnig".

### **Dicranites subflagellare Caspary.**

cf. *Dicranum subflagellare*.

## **Dicranodontium Bry. eur.**

### **Dicranodontium longirostre (Stärke) Bry. eur.**

- 1912 *Dicranodontium longirostre* var. *alpinum* Milde. Glacial Stärke, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

## **Fissidentaceae.**

### **Fissidens Hedw.**

#### **Fissidens adiantoides (L.) Hedw.**

- 1910 *Schistophyllum adiantoides* Brid. Hesselbo, A. Moser fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

#### **Fissidens cristatus Wils.**

- 1923 *Fissidens decipiens* De Not. Baumberger, El., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz., geotechn. Ser., Lief. 8, p. 333.] Quaternary

#### **Fissidens julianus Sav.**

- 1898 *Schistophyllum julianum* (Sav.) Lindb. Andersson, Gunnar. Stud. öfver Finlands ..... Kvärtärflora. Quaternary

[Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 138.]

### **Fissidens osmundoides (Sw.) Hedw.**

- 1910 *Fissidens osmundoides*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.] Postglacial
- 1912 *Fissidens osmundoides*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial
- 1924 *Fissidens osmundoides*. Beyle, M. Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Dritter Teil. [Mitteil. aus dem Mineralog.-Geol. Staatsinstitut, Hamburg, Heft VI, p. 7.]

### **Fissidens taxifolius (L.) Hedw.**

- 1923 *Fissidens taxifolius*. Baumberger, E., etc. Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 333.] Quaternary

## **Pottiaceae.**

### **Hymenostomum R. Br.**

#### **Hymenostomum microstomum (Hedw.) R. Br.**

cf. *Muscites confertus*. (*Hymenostomum trichostomum* Goepp., Douin, les Mousses et les Hepatiques Fossiles, p. 114, is a lapsus calami for *H. microstomum*).

### **Weisia Hedw.**

#### **Weisia conferta Schimp.**

- 1845 *Muscites confertus* Goepp. & Ber. Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 112; t. VI, figs. 29—31. Amber
- 1869 *Weisia conferta* Schimper, Traité de Pal. Végét. 1, p. 243.

Note. Caspary writes that he has not examined the specimen, but from the description and figures he is inclined to think it the same thing as *Dicranites Casparyi* Klebs. The relation to *Weisia* seems very doubtful.

### **Gymnostomum Hedw.**

#### **Gymnostomum calcareum Bry. germ.**

- 1923 *Gymnostomum calcareum*. Baumberger, E., etc. Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 333.] Quaternary

#### **Gymnostomum ferrugineum Ludw.**

cf. *Sphagnum Ludwigii*.

**Eucladium** Bry. eur.**Eucladium verticillatum** (L.) Bry. eur.

- 1925 *Eucladium verticillatum*. Adam, Boros. Two fossil Recent tufa species of Mosses from the Diluvial Lime Tufa of Hungary. [Bryologist, XXVIII, p. 32.]

**Trichostomum** Hedw.**Trichostomum substrictum** Goepp. & Menge.

- 1853 *Trichostomum substrictum* Goepp. & Menge. Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.]

Note. Compared by the authors with "*Trich. strictum*"; but, as Schimper remarks, they do not even say whether they refer to *T. strictum* Sw. or *T. strictum* Bry. eur. The affinity is very doubtful.

**Trichostomum subpolystichum** Goepp. & Menge.

- 1853 *Trichostomum subpolystichum* Goepp. & Menge op. Amber et loc. cit.

Note. Compared by the authors with "*Trich. polystichum*". No such moss is known. Schimper suggests a slip for *T. polyphyllum* (Ptychomitrium); but a moss in amber is not likely to have a very close affinity with a purely rupestral species such as this.

**Tortella** Limpr.**Tortella fragilis** (Hook. f. & Wils.) Limpr.

- 1909 *Mollia fragilis* Lindb. Hartz, N. Bidrag til Danmarks tertiære Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

**Tortella inclinata** (Hedw. f.) Limpr.

- 1904 *Tortella inclinata*. Weber, C. A., in Müller, G. Preglacial und Weber. Ueber eine fröhdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 15.]

**Tortella tortuosa** (L.) Limpr.

- 1902 *Mollia tortuosa* Lindb. Hartz, N. Bidr. til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.] Late glacial
- 1910 *Mollia tortuosa* Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1914 *Tortella tortuosa*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

**Didymodon Hedw.****Didymodon alpigena Vent.**

- 1912 *Didymodon alpigena*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber. na-  
turforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

**Didymodon rigidulus Hedw.**

- 1911 *Didymodon rigidulus*. Stoller, J. Beitr. zur Kenntn. Diluvial  
der diluv. Flora ..... Norddeutschlands. [Jahrb.  
d. Kgl. preuss. geol. Landesanst., XXIX, p. 123.]

**Didymodon rubellus (Hoffm.) Bry. eur.**

- 1909 *Barbula rubella* Lindb. Hartz, N. Bidr. til Dan- Interglacial  
marks tertiaere . . . Flora. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 20, p. 260.]
- 1910 *Barbula rubella* Lindb. Hesselbo, A. Mosrester Quaternary  
fra Diluviet ved Skaerumhede. [Danmarks geol.  
Undersøgelse, II Raekke, No. 25, p. 106.]
- 1912 *Barbula rubella* Lindb. Dixon, H. N., in Warren, Late glacial  
S. H. A late Glacial stage in the Lea Valley.  
[Quart. Journ. Geol. Soc., LXVIII, p. 231.]

**Didymodon tophaceus (Brid.) Jur.**

- 1922 *Didymodon tophaceus*. Adám, Boros. Magyar Bo- Recent tufa  
tanikai Lapok, Budapest, p. 71.
- 1925 *Didymodon tophaceus*. Adám, Boros. Two fossil Recent tufa  
species of Mosses from the Diluvial Lime Tufa  
of Hungary. [Bryologist, XXVIII, 29.]

**Barbula Hedw.****Barbula fallax Hedw.**

- 1913 *Barbula fallax*. Travis, C. B. and W. G. On plant Post-glacial  
remains in post-glacial gravels at Seaforth, Liver-  
pool. [Lancashire Naturalist, 1913, p. 50.]

**Barbula icmadophila Schimp.**

- 1912 *Barbula icmadophila*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber. na-  
turforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

**Barbula paludosa Schleich.**

- 1912 *Barbula paludosa*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber. na-  
turforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

**Barbula subcanescens Goepp. et Ber.**

cf. *Muscites apiculatus* Goepp. et Ber.

**Phascum L.****Phascum cuspidatum Goepp.**

- 1853 *Phascum cuspidatum* Goepp., H. R. Ueber die Amber  
Bernsteinflora. [Monatsber. d. Berliner Akad.,  
1853, p. 458.]

Note. Schimper considers the identification  
as doubtful.

**Desmatodon** Brid.**Desmatodon latifolius** (Hedw.) Bry. eur.

- 1914 *Desmatodon latifolius* var. *muticus* Brid. Weber, Glacial  
C. A. Die Mammutflora von Borna. [Abh. Nat.  
Ver. Bremen, XXIII, Heft 1, p. 16.]

**Tortula** Hedw.**Tortula norvegica** (Web.) Wahl.

- 1903 *Tortula aciphylla* Hartm. Range, Paul. Das Diluv. Diluvial  
von Lübeck und seine Dryastone. [Zeitschr. f.  
Naturwiss., LXXVI, p. 254.]
- 1910 *Tortula norvegica*. Hesselbo, A. Mosrester fra Quaternary  
Diluviet ved Skaerumhede. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 25, p. 106.]
- 1912 *Tortula aciphylla* var. *mucronata* Sendtn. Dixon, Late glacial  
H. N., in Warren, S. H., A late Glacial stage in  
the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII,  
p. 231.]
- 1914 *Tortula aciphylla* Hartm. Weber, C. A. Die Mam- Glacial  
mutflora von Borna. [Abh. Nat. Ver. Bremen,  
XXIII, Heft 1, p. 16.]

**Tortula ruralis** (L.) Ehrh.

- 1907 *Tortula ruralis*. Holst, N. O. Preglaciala Dryas- Preglacial  
förande ..... nara Ystad. [Geol. Fören. Förh.,  
XXIX, p. 232.]
- 1910 *Tortula ruralis*. Hesselbo, A. Mosrester fra Quaternary  
Diluviet ved Skaerumhede. [Danmarks geol. Under-  
søgelse, II Raekke, No. 25, p. 106.]
- 1914 *Tortula ruralis*. Weber, C. A. Die Mammutflora Glacial  
von Borna. [Abh. Nat. Ver. Bremen, XXIII,  
Heft 1, p. 16.]

**Tortula** species.

- 1914 *Tortula* sp. Weber, C. A. Die Mammutflora von Glacial  
Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1,  
p. 16.]

**Encalypta** Schreb.**Encalypta alpina** Smith.

- 1910 *Leersia alpina* Lindb. Hesselbo, A. Mosrester fra Quaternary  
Diluviet ved Skaerumhede. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 25, p. 106.]

**Encalypta rhabdocarpa** Schwaegr.

- 1902 *Encalypta rhabdocarpa*. Hartz, N. Bidr. til Dan- Late glacial  
marks senglaciale Flora og Fauna. [Danmarks  
geol. Undersøgelse, II Raekke, No. 11, p. 11.]
- 1909 *Leersia rhabdocarpa* Lindb. Hartz, N. Bidr. til Interglacial  
Danmarks tertiaere ..... Flora. [Danmarks geol.  
Undersøgelse, II Raekke, No. 20, p. 261.]

- 1910 *Encalypta rhabdocarpa*? Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *Encalypta rhabdocarpa*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1912 *Encalypta rhabdocarpa*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. u. Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

## Grimmiaceae.

### Glyphomitrium Brid.

#### *Glyphomitrium Cockerelleae* Britt. et Hollick.

- 1907 *Glyphomitrium Cockerelleae* Britt. & Hollick, American Fossil Mosses, in Bull. Torr. Bot. Cl. 34: 140; tab. 9, figs. 6, 6a. Cum fructu. Tertiary  
Shales,  
Florissant,  
Colorado

### *Coscinodon* Spreng.

#### *Coscinodon humilis* Milde.

- 1912 *Coscinodon humilis*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Faun. Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, 89.] Glacial

## Grimmia Ehrh.

#### *Grimmia alpicola* Sw.

- 1912 *Schistidium alpicola* var. *rivulare* Limpr. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

#### *Grimmia anodon* Bry. eur.

- 1912 *Grimmia anodon*. Stark, P., op. et loc. cit. Glacial

#### *Grimmia apocarpa* (L.) Hedw.

- 1910 *Grimmia apocarpa*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumkede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Quaternary

#### *Grimmia elatior* Bruch.

- 1912 *Grimmia elatior*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

#### *Grimmia elongata* Kaulf.

- 1912 *Grimmia elongata*. Stark, P., op. et loc. cit. Glacial



**Grimmia ericoides** Lindb.cf. *Racomitrium canescens*.**Grimmia funalis** (Schwaegr.) Schimp.1912 *Grimmia funalis*. Stark, P., op. et loc. cit. Glacial**Grimmia hypnoides** Lindb.cf. *Racomitrium lanuginosum*.**Grimmia incurva** Schwaegr.1912 *Grimmia incurva*. Stark, P., op. et loc. cit. Glacial**Grimmia subelongata** Goepp. et Menge.1853 *Grimmia subelongata* Goepp. & Menge in Goepp., Amber  
H. R., Ueber die Bernsteinflora. [Monatsber. d.  
Berliner Akad., 1853, p. 459.]Note. Compared with *G. elongata* Kaulf. Schimper rightly remarks that it is very doubtful if any species allied to *G. elongata* would occur in the pine forests and under the conditions where amber was formed.**Grimmia torquata** Hornsch.1912 *Grimmia torquata*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]**Grimmia species.**

- 1908 *Grimmia* sp. Dixon, H. N., in Lewis, F. J. The Recent  
Plant Remains in the Scottish Peat Mosses.  
Part III. [Trans. Roy. Soc. Edinb., XLVI, p. 44.]
- 1910 *Grimmia* sp. Dixon, H. N. Some "Neolithic" Moss Postglacial  
remains from Fort William. [Ann. Scott. Nat.  
Hist., 1910, p. 104.]

Note. Of the *trichophylla* type, but with cells nearly all incrassate and sinuose to the base. Probably either *G. Mühlenbeckii* or *G. robusta*.**Racomitrium** Brid.**Racomitrium affine** Lindb.

- 1910 *Racomitrium heterostichum* var. Dixon, H. N. Postglacial  
Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]

**Racomitrium canescens** (Weis) Brid.

- 1910 *Racomitrium canescens*. Dixon, H. N., op. et Postglacial  
loc. cit.

- 1910 *Grimmia ericoides* Lindb. Hesselbo, A. Mosrester Quaternary  
fra Diluviet ved Skaerumhede. [Danmarks geol.  
Undersøgelse, II Række, No. 25, p. 108.]
- 1922 *Rhacomitrium canescens*. Jessen, Knud, og Ras- Recent  
mussen, R. Et Profil Gennem en Tørvemose paa  
Faerørne, p. 12.

### ***Rhacomitrium fasciculare* (Schrad.) Brid.**

- 1922 *Rhacomitrium fasciculare*. Jessen, Knud, og Ras- Recent  
mussen, R. Et Profil Gennem en Tørvemose paa  
Faerørne, p. 12.

### ***Rhacomitrium heterostichum* (Hedw.) Brid.**

- 1922 *Rhacomitrium heterostichum*. Jessen, Knud, og Recent  
Rasmussen, R., op. et loc. cit.

### ***Rhacomitrium hypnoides* (L.) Lindb.**

- 1908 *Rhacomitrium lanuginosum* Brid. Dixon, H. N., Recent  
in Lewis, F. J. The Plant Remains in the Scottish  
Peat Mosses. Part III. [Trans. Roy. Soc. Edinb.,  
XLVI, pp. 40, 48, 55.]
- 1910 *Grimmia hypnoides* Lindb. Hesselbo, A. Mosrester Diluvial  
fra Diluviet ved Skaerumhede. [Danmarks geol.  
Undersøgelse, II Række, No. 25, p. 108.]
- 1914 *Rhacomitrium hypnoides* Lindb. Zmuda, A. J. Fos- Diluvial  
sile Flora des Krakauer Diluviums. [Bull. int.  
Acad. Sci. Cracovie d. sc. math. et nat., Sér.  
B, No. 2 B, p. 248.]
- 1924 *Rhacomitrium lanuginosum* Brid. Burrell, W. H. Recent  
Pennine Peat. [The Naturalist, 1924, p. 148,  
tab. X.]

### ***Rhacomitrium patens* (Brid.)**

- 1912 *Dryptodon patens* Brid. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Gesellsch. Freiburg i. B., XIX,  
p. 89.]

## **Orthotrichaceae.**

### ***Anoetangium* Hedw.**

#### ***Anoetangium compactum* Schwaegr.**

- 1912 *Anoetangium compactum*. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Gesellsch. Freiburg i. B., XIX,  
p. 88.]

### ***Amphidium* Nees.**

#### ***Amphidium lapponicum* (Hedw.) Schimp.**

- 1912 *Amphidium lapponicum*. Stark, P. op. cit., p. 89. Glacial

**Zygodon** Hook. & Tayl.**Zygodon viridissimus** (Dicks.) R. Br.

- 1913 *Zygodon viridissimus*. Travis, C. B. and W. G. Postglacial  
On plant remains in post-glacial gravels at Seaforth, Liverpool. [Lancashire Naturalist, 1913, p. 50.]

**Ulota** Mohr.**Ulota curvifolia** (Wahl.) Brid.

- 1912 *Ulota curvifolia*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

**Orthotrichum** Hedw.**Orthotrichum diaphanum** (Gmel.) Schrad.

- 1912 *Orthotrichum diaphanum*. Dixon, H. N., in Warren, Late glacial  
S. H. A late Glacial stage in the Lea Valley.  
[Quart. Journ. Geol. Soc., LXVIII, p. 231.]

**Orthotrichum** species.

- 1907 *Orthotrichum* sp. Hartmann, F. Die Fossile Flora Diluvial  
von Ingramsdorf. Inaug. Dissert. Breslau, p. 25.

**Splachnaceae.****Splachnum** L.**Splachnum ampullaceum** L.

- 1912 *Splachnum ampullaceum*. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

**Splachnum sphaericum** (L. f.) Sw.

- 1912 *Splachnum sphaericum*. Stark, P., op. et loc. cit. Glacial

**Bryaceae.****Leptobryum** Wils.**Leptobryum pyriforme** (L.) Wils.

- 1910 *Leptobryum pyriforme*. Hesselbo, A. Mosrester Quaternary  
fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

## Pohlia Hedw.

### Pohlia commutata (Schimp.) Lindb.

- 1910 *Pohlia commutata*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *Webera commutata* Schimp. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

### Pohlia cruda (L.) Lindb.

- 1902 *Pohlia cruda*. Hartz, N. Bidr. til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.] Late glacial
- 1912 *Webera cruda* (L.) Bruch. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

### Pohlia cucullata (Schwaegr.) Bruch

- 1910 *Pohlia cucullata*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *Webera cucullata* (Schwaegr.) Schimp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

### Pohlia longicolla (Sw.) Lindb.

- 1912 *Webera longicolla* (Sw.) Hedw. Stark, P., op. Glacial et loc. cit.

### Pohlia Ludwigii (Spreng) Lindb.

- 1912 *Webera Ludwigii* Schimp. Stark, P., op. et loc. cit. Glacial

### Pohlia nutans (Schreb.) Lindb.

- 1902 *Pohlia nutans*. Hartz, N. Bidr. til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial
- 1904 *Pohlia nutans*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1909 *Pohlia ?nutans*. Hartz, N. Bidr. til Danmarks tertiære Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *Pohlia nutans*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1913 *Webera nutans* Hedw. Travis, C. B. and W. G. On plant remains in post-glacial gravels at Seaforth, Liverpool. [Lancashire Naturalist, 1913, p. 50.] Postglacial
- 1914 *Pohlia nutans*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

- 1917 *Webera nutans* Hedw. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons ..... [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.]

***Pohlia sphagnicola* (Bry. eur.) Lindb.**

- 1912 *Webera sphagnicola* Schimp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

***Mniobryum* Limpr.**

***Mniobryum albicans* (Wahl.) Limpr.**

- 1888 *Webera albicans* Schimp. Reid, C. and Ridley, H. N. Fossil Arctic Plants from ..... Hoxne, in Suffolk. [Geol. Mag., Decade III, Vol. V, p. 444.] Glacial
- 1904 *Mniobryum albicans*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1910 *Pohlia albicans* Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *Mniobryum albicans* var. *glaciale* Limpr. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial
- 1914 *Mniobryum albicans*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 248.] Diluvial

***Anomobryum* Schimp.**

***Anomobryum concinnum* (Spruce) Lindb.**

- 1912 *Anomobryum concinnum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

***Bryum* Dill.**

***Bryum capillare* L.**

- 1912 *Bryum capillare*. Dixon, H. N. in Warren, S. H. A late Glacial Stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

***Bryum cirratum* Hoppe et Hornsch.**

- 1910 *Bryum cirratum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *Bryum cirratum*. Dixon, H. N. in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

**Bryum crispulum** Hampe.

- 1910 *Bryum crispulum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

**Bryum cyclophyllum** (Schwaegr.) Bry. eur.

- 1910 *Bryum cyclophyllum*. Hesselbo, A., op. et loc. cit. Quaternary

**Bryum Duvalii** Voit.

- 1905 *Bryum ?Duvalii*. Neuweiler, E. Zur interglazialflora der Schweiz. Schieferkohlen. [Ber. d. Züricher Bot. Gesellsch., XV, p. 98.] Interglacial
- 1914 *Bryum ?Duvalii*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 17.] Glacial
- 1923 *Bryum Duvalii*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 84.] Quaternary

**Bryum elegans** Nees.

- 1912 *Bryum elegans*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

**Bryum erythrocarpum** Schwaegr.

- 1904 *Bryum erythrocarpum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

**Bryum intermedium** Brid.

- 1912 *Bryum ?intermedium*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

**Bryum lacustre** Brid.

- 1914 *Bryum lacustre*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B. No. 2B, p. 248.] Diluvial

**Bryum microstegium** Bry. eur.

- 1904 *Bryum cf. microstegium*. Weber, C. A., in Müller, G. und Weber. Ueber eine frühdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Preglacial

**Bryum neodamense** Itzigs.

- 1910 *Bryum neodamense* var. *ovatum* Lindb. and Arn. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

- 1912 *Bryum neodamense*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber.  
naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

### ***Bryum pallens* Swartz.**

- 1888 *Bryum pallens*. Reid, C. and Ridley, H. N. Fossil Glacial  
Arctic Plants from Hoxne, in Suffolk. [Geol.  
Mag., Decade III, Vol. V, p. 444.]
- 1903 *Bryum pallens*. Range, Paul. Das Diluv. von Diluvial  
Lübeck und seine Dryastone .... [Zeitschr. f.  
Naturwiss., LXXVI, p. 253.]
- 1912 *Bryum pallens*. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1913 *Bryum pallens*. Travis, C. B. and W. G. On Postglacial  
plant remains in post-glacial gravels at Seaforth,  
Liverpool. [Lancashire Naturalist, 1913, p. 50.]
- 1923 *Bryum pallens*. Baumberger, E., etc. Die diluvi- Quaternary  
alen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, p. 521.]
- 1923 *Bryum pallens*. Gams, H. Interglacial bryophytes Interglacial  
..... [B. 2, Geol. Karte d. Schweiz, Geotechn.  
Ser., Lief. 8, p. 521.]

### ***Bryum Schleicheri* Schwaegr.**

- 1912 *Bryum Schleicheri* var. *latifolium* Schimp. Stark, P. Glacial  
Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna  
Badens. [Ber. naturforsch. Gesellsch. Freiburg i.  
B., XIX, p. 89.]

### ***Bryum ventricosum* Dicks.**

- 1902 *Bryum ventricosum*. Hartz, N. Bidrag til Dan- Late glacial  
marks senglacial Flora og Fauna. [Danmarks geol.  
Undersøgelse, II Raekke, No. 11, p. 15.]
- 1903 *Bryum pseudo-triquetrum* Schwaegr. Range, Paul. Diluvial  
Das Diluv. von Lübeck und seine Dryastone.  
[Zeitschr. f. Naturwiss., LXXVI, p. 253.]
- 1909 *Bryum ventricosum*. Hartz, N. Bidr. til Dan- Interglacial  
marks tertiaere .... Flora. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 20, p. 260.]
- 1909 *Bryum ventricosum*. Nørregaard, E. M. Et senglac- Late glacial  
ialt... Vandløb fra Dejbjerg Bakker. [Meddel.  
fra Dansk geol. Foren., No. 15, p. 325.]
- 1910 *Bryum ventricosum*. Dixon, H. N. Some "Neoli- Postglacial  
thic" Moss remains from Fort William. [Ann.  
Scott. Nat. Hist., 1910, p. 104.]
- 1910 *Bryum ventricosum*. Hesselbo, A. Mosrester fra Quaternary  
Diluviet ved Skaerumhede. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 25, p. 106.]
- 1912 *Bryum ventricosum*. Dixon, H. N., in Warren, Late glacial  
S. H. A late Glacial stage in the Lea Valley.  
[Quart. Journ. Geol. Soc., LXVIII, p. 231.]
- 1914 *Bryum pseudotriquetrum* Schwaegr. Weber, C. A. Diluvial  
des Krakauer Diluviums. [Bull. int. Acad. Sci.  
Cracovie d. sc. math. et nat., Sér. B, No. 2B,  
p. 248.]

- 1914 *Bryum pseudotriquetrum* Schwaegr. Weber, C. A. Glacial  
Die Mammutflora von Borna. [Abh. Nat. Ver.  
Bremen, XXIII, Heft 1, p. 17.]

### **Bryum species.**

- 1890 *Bryum* sp. Dawson, Sir Wm., and Penhallow, D. Pleistocene  
P. On the Pleistocene Flora of Canada. [Bull.  
Geol. Soc. Amer., I, p. 315.]
- 1902 *Bryum* sp. Hartz, N. Bidrag til Danmarks senglacial Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial
- 1904 *Bryum* sp. Weber, C. A. in Mueller, G. u. Weber. Ueber einer fröhdiluviale und vorglaciale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Preglacial
- 1910 *Bryum* sp. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1914 *Bryum* sp. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 17.] Glacial
- 1923 *Bryum* sp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 333.] Quaternary
- "*Bryon crispatum* Grand Eury ist Autophyllites furcatus Grand Eury." Jongmans, in Med. van de Rijksopspor. van Delfstoffen, No. 3 (1911), p. 441.

## **Mniaceae.**

### **Mnium L.**

#### **Mnium affine Bland.**

- 1898 *Mnium affine*. Andersson, Gunnar. Stud. öfver Finlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.] Quaternary
- 1899 *Mnium affine*. Bertrand, C. E. Descr. d'un échantillon de charbon papyracé ..... [Ann. Soc. géol. du Nord, XXVIII, p. 190.] Pleistocene
- 1902 *Astrophyllum cuspidatum* (L.) Lindb. Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.] Late glacial
- 1904 *Mnium affine*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1909 *Astrophyllum cuspidatum* (L.) Lindb. Hartz, N. Bidrag til Danmarks tertiaere ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial
- 1914 *Mnium affine* var. *integrifolium* Lindb. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cravovie d. sc. math. et nat., Sér. B., No. 2 B, p. 248.] Diluvial



**Mnium antiquorum** Card et Dixon.

- 1915 *Mnium antiquorum* Card. & Dixon in Reid, Clement and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 52, Fig. 3.] See also Bryologist, XIX, p. 51 (1916). Pliocene

**Mnium cinclidioides** (Blytt) Hübén.

- 1897 *Mnium cinclidioides*. Beck, R., und Weber, C. A. Ueber ein. Torflager ..... des sächsisch. Erzgebirges. [Zeitschr. d. deutsch. geol. Ges., XLIX, p. 666.] Diluvial
- 1898 *Mnium cinclidioides*. Andersson, Gunnar. Stud. Finlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.] Quaternary
- 1912 *Mnium cinclidioides*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. u. Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial
- 1914 *Mnium cinclidioides*, Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

**Mnium curvatulum** (Lindb.) Limpr.

- 1910 *Astrophyllum curvatulum* Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

**Mnium cuspidatum** (L.) Leyss.

- 1909 *Astrophyllum silvaticum* Lindb. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial
- 1910 *Astrophyllum silvaticum* Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

**Mnium hornum** L.

- 1895 *Mnium hornum*. Gepp, A. Fossil plant-remains in peat. [Journ. of Bot., XXXIII, p. 181.] Recent sub-marine peat
- 1898 *Mnium hornum*. Andersson, Gunnar. Stud. öfver Finlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.] Quaternary
- 1910 *Mnium hornum*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.] Postglacial
- 1922 *Mnium hornum*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent

**Mnium hymenophylloides** Hübén.

- 1910 *Mnium hymenophylloides*. Sukačev, V. N. Sur la .... flore arctique .... près du village Demianskôe, gouv. Tobolsk. [Bull. Acad. Impér. Sci. St. Pétersbourg, 1910, p. 460, figs. 1-3.] Pleistocene

- 1910 *Astrophyllum hymenophylloides* (Hueben.) Lindb. Quaternary  
Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]
- 1914 *Mnium hymenophylloides*. Weber, C. A. Die Mammutflora von Bornä. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 16.] Glacial
- 1918—20 *Mnium hymenophylloides*. Doctourowsky, V. S. Interglacial  
and Kudriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

### ***Mnium marginatum* (Dicks.) P. Beauv.**

- 1910 *Astrophyllum marginatum* (Dicks.) Lindb. Hesselbo, Quaternary  
A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

### ***Mnium medium* Bry. eur.**

- 1909 *Astrophyllum medium* (Bry. eur.) Lindb. Hartz, N. Interglacial  
Bidrag til Danmarks tertiaere ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

Note. The author gives no indication of the characters by which he distinguishes it from *M. affine*. It was presumably not fruiting.

### ***Mnium punctatum* (L.) Hedw.**

- 1888 *Mnium punctatum*. Reid, Clement, and Ridley, Glacial  
H. N. Fossil Arctic Plants from ..... Hoxne, in Suffolk. [Geol. Mag., Dec. III, Vol. V, p. 444.]
- 1898 *Mnium punctatum*. Andersson, Gunnar. Stud. öfver Quaternary  
Finlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.]
- 1905 *Mnium punctatum*. Neuweiler, E. Die prähistor. Pleistocene  
Pflanzenreste Mitteleuropas... [Vierteljahr. Naturforsch. Ges. Zurich, L, Heft 6, p. 40.]
- 1911 *Mnium punctatum*. Dixon, H. N., in Lewis, F. J. Iceland  
The plant remains in the Scottish Peat Mosses. peat; recent  
Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831 bis.]
- 1912 *Mnium punctatum* (or *M. subglobosum* Bry. eur.). Late glacial  
Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]
- 1914 *Mnium punctatum*. Weber, C. A. Die Mammutflora Glacial  
von Bornä. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 17.]
- 1923 *Mnium punctatum*. Baumberger, E., etc. Die Quaternary  
diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz., geotechn. Ser., Lief. 8, pp. 145, 333.]

### ***Mnium riparium* Mitten.**

- 1914 *Mnium riparium*. Zmuda, A. J. Fossile Flora Diluvial  
des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.]

Note. The identification, in the presumable absence of inflorescence, appears to me extremely doubtful.

### **Mnium rostratum** Schrad.

- 1904 **Mnium rostratum**. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1912 **Mnium rostratum**. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

### **Mnium rugicum** Laur.

- 1904 **Mnium rugicum**. Weber, C. A., in Mueller, G. und Weber. Ueber eine fröhdiluviale und vorglaciale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Preglacial
- 1912 **Mnium rugicum**. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Flora und Fauna Badens. [Ber. Naturforsch. Ges. Freiburg i. B., XIX, p. 26.] Glacial
- 1914 **Mnium rugicum**. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

### **Mnium subglobosum** Br. Eur.

- 1909 **Astrophyllum subglobosum** (Bry. eur.) Lindb. Hartz, N. Bidrag til Danmarks tertiaere ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial
- 1912 **Mnium subglobosum** (cf. *M. punctatum*).

### **Mnium undulatum** (L.) Weis.

- 1905 **Mnium undulatum**. Neuweiler, E., Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. Naturforsch. Ges. Zurich, L, Heft 6, p. 40.] Pleistocene
- 1909 **Astrophyllum undulatum** (L.) Lindb. Hartz, N. Bidrag til Danmarks tertiaere ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

### **Mnium** species.

- 1892 **Mnium** sp. Boulay, N. Flore pliocène du Mont-Dore, p. 44. Pliocene
- Note. According to the author the generic position is very doubtful. *Fissidens* and *Hypnum* are also suggested.

### **Cinclidium** Sw.

#### **Cinclidium arcticum** Schimp.

- 1910 **Cinclidium arcticum**. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

- 1914 *Cinclidium arcticum*. Weber, C. A. Die Mammutflora von Bornä. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 17.] Glacial

### ***Cinclidium latifolium* Lindb.**

- 1910 *Cinclidium latifolium*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

### ***Cinclidium stygium* Sw.**

- 1907 *Cinclidium stygium*. Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.] Peat  
 1914 *Cinclidium stygium*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 248.] Diluvial

### ***Cinclidium* species.**

- 1925 *Cinclidium* sp. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Recent

## **Aulacomniaceae.**

### ***Aulacomnium palustre* (L.) Swaegr.**

- 1895 *Aulacomnium palustre*. Gepp, A. Fossil plant-remains in peat. [Journ. of Bot., XXXIII, p. 181.] Recent sub-marine peat  
 1902 *Sphaerocephalus palustris* (L.) Lindb. Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial  
 1903 *Aulacomnium palustre*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone ..... [Zeitschr. f. Naturwiss., LXXVI, p. 269.] Diluvial  
 1904 *A. palustre*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial  
 1907 *A. palustre*. Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.] Peat  
 1910 *Sphaerocephalus palustris* (L.) Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary  
 1912 *A. palustre*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial  
 1914 *A. palustre* var. *imbricatum* Bry. eur. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial  
 1917 *A. palustre*. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 82.] Recent  
 1917 *A. palustre*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons ..... [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.] Recent

- 1918—20 *A. palustre*. Docturovsky, V. S., and Kudriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Interglacial
- 1922 *A. palustre*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent
- 1923 *A. ?palustre*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary
- 1924 *A. palustre*. Burrell, W. H. Pennine Peat. [The Naturalist, 1924, p. 148.] Recent

### ***Aulacomnium turgidum* Schwaegr.**

- 1910 *Aulacomnium turgidum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1914 *A. turgidum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial

## **Meeseaceae.**

### ***Paludella* Ehrh.**

#### ***Paludella squarrosa* (L.) Brid.**

- 1896 *Paludella squarrosa*. Farneti, R. Ricerche di briol. palaeont. .... al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 53.] Glacial
- 1914 *P. squarrosa*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial
- 1918 *P. squarrosa*. Beyle, M. Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst., XXXVI, p. 40.] Glacial
- 1925 *P. squarrosa*. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Recent

### ***Amblyodon* P. Beauv.**

#### ***Amblyodon dealbatus* (Dicks.) Beauv.**

- 1912 *Amblyodon dealbatus*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial
- 1913 *A. dealbatus*. Travis, C. B. and W. G. On plant remains in postglacial gravels at Seaforth, Liverpool. [Lancashire Naturalist, 1913, p. 50.] Postglacial

### ***Meesea* Hedw.**

#### ***Meesea Albertini* Bry. eur.**

- 1912 *Meesea Albertini*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial

**Meesea longiseta** Hedw.

- 1905 *Meesea longiseta*. Neuweiler, E. Zur Interglazialfl. der Schweiz. Schieferkohlen. [Ber. d. Schweiz. bot. Ges., Heft 15, Beilage. Neunter Ber. d. Zürich. bot. Ges., p. 96.] Interglacial
- 1909 *M. longiseta*. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1912 *M. longiseta*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial
- 1923 *M. longiseta*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 334.] Quaternary

**Meesea trichodes** (L.) Spruce.

- 1910 *Meesea trichodes*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *Meesea trichodes*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial

**Meesea triquetra** (L.) Aongstr.

- 1896 *Meesea triquetra*. Farneti, R. Ricerche di briol. palaeont. .... al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 52.] Glacial
- 1898 *M. triquetra*. Andersson, Gunnar. Stud. öfver Finlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.] Quaternary
- 1904 *M. triquetra*. Geinitz, C., und Weber, C. A. Ueber ein Moostorflager .... der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.] Postglacial
- 1904 *M. triquetra* var. *timmioides* Sanio. Geinitz und Weber, op. et loc. cit. Postglacial
- 1908 *Meesea tristicha* (Funck) Bry. eur. Weber, C. A. Die Moostorfschichten ..... zwischen Sarkau und Cranz. [Engler's Bot. Jahrb., XLII, p. 43.] Pleistocene
- 1908 *M. tristicha* var. *timmioides* Sanio. Weber, C. A. op. cit., pp. 41, 43. Pleistocene
- 1909 *M. tristicha* (Funck) Bry. eur. Schuster, J. Palaeobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, I, p. 58.] Schieferkohlen
- 1910 *M. triquetra*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *M. tristicha* (Funck) Bry. eur. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial
- 1914 *M. triquetra*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B., No. 2 B, p. 248.] Diluvial
- 1923 *M. triquetra*. Gams, H. Interglacial bryophytes. [Die Schieferkohlen der Schweiz, B. 2, Geol. Karte d. Schweiz, geotechn. Ser., Lief. 8, p. 521.] Interglacial

- 1923 *M. triquetra*. Baumberger, E., etc. Die diluvialen Quaternary Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 334, 521.]  
 1925 *M. triquetra*. Dixon, H. N. Moss Remains in Recent Russian Peat. [Journ. of Bot., LXIII, p. 370.]

## Catoscopiaceae.

### Catoscopium Brid.

#### Catoscopium nigrum (Hedw.) Brid.

- 1912 *Catoscopium nigrum*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.]

## Bartramiaceae.

### Plagiopodopsis Britton & Hollick

#### Plagiopodopsis Scudderii Britton et Hollick.

- in Bull. Torr. Bot. Cl. 42:10 (1915); Figs. 1, 2. Tertiary  
 Cum fructu. Shales of  
 Florissant,  
 Colorado,  
 U. S. A.

### Conostomum Sw.

#### Conostomum tetragonum (Dicks.) Lindb.

- 1914 *Conostomum boreale* Sw. Zmuda, A. J. Fossile Diluvial Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

### Philonotis Brid.

#### Philonotis calcarea (Br. Eur.) Schimp.

- 1911 *Philonotis calcarea*. Dixon, H. N. in Lewis, F. J. Iceland The plant remains in the Scottish Peat Mosses. peat; recent  
 Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831.]

#### Philonotis coespitosa Wils.

- 1918 *Philonotis coespitosa*. Heim, Arnold, and Gams, H. Interglacial Interglaz. Bild. bei Wildhaus. [Vierteljahrsschr. naturf. Ges. Zürich, LXIII, p. 27.]

#### Philonotis fontana (L.) Brid.

- 1888 *Philonotis fontana*. Reid, C. and Ridley, H. N. Glacial Fossil Arctic Plants from... Hoxne, in Suffolk. [Geol. Mag., Dec. III, Vol. V, p. 444.]

- 1904 *P. fontana* var. *ampliretis* Dixon. Bell, A. M. Late glacial  
Implementiferous Sections at Wolvercote (Ox-  
fordshire). [Quart. Journ. Geol. Soc., LX, 124.]
- 1909 *P. fontana*. Nørregaard, E. M. Et senglacialt ... Late glacial  
fra Dejbjerg Bakker. [Meddel. fra Dansk geol.  
Förening, No. 15, p. 326.]
- 1910 *P. fontana*. Hesselbo, A. Mosrester fra Diluviet Diluvial  
ved Skaerumhede. [Danmarks geol. Undersøgelse,  
II Raekke, No. 25, p. 106.]
- 1911 *P. fontana*. Dixon, H. N. in Lewis, F. J. The Iceland  
plant remains in the Scottish Peat Mosses. Part  
IV. [Trans. Roy. Soc. Edinb., XLVII, pp. 830,  
831.] peat, recent
- 1912 *P. fontana*. Dixon, H. N. in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1914 *P. fontana*. Zmuda, A. J. Fossile Flora des Diluvial  
Krakauer Diluviums. [Bull. int. Acad. Sci. d.  
sc. math. et nat., Sér. B, No. 2 B, p. 249.]
- 1915 *P. fontana*. Reid, Clement and E. M. The Pliocene  
Floras of the Dutch-Prussian Border. [Med.  
van de Rijksopspor. van Delfstoffen, No. 6, p. 53.] Pliocene
- 1923 *P. fontana* var. *glacialis*. Baumberger, E., etc. Quaternary  
Die diluvialen Schieferkohlen der Schweiz. [Beitr.  
Geol. Schweiz., geotechn. Ser., Lief. 8, p. 521.]

### ***Philonotis seriata* Mitt.**

- 1912 *Philonotis seriata*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber.  
naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

### ***Philonotis tomentella* Mol.**

- 1912 *Philonotis alpicola* Jur. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich Fl. und Fauna Badens.  
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.]
- 1914 *Philonotis tomentella*. Weber, C. A. Die Mammut- Glacial  
flora von Borna. [Abh. Nat. Ver. Bremen, XXIII,  
Heft 1, p. 18.]

### ***Philonotis* species.**

- 1911 *Philonotis* sp. Dixon, H. N. in Lewis, F. J. Iceland  
The plant remains in the Scottish Peat Mosses.  
Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.] peat, recent  
Note. Leaf with very stout nerve; much eroded.  
May be an adpressa form.

## **Timmiaceae.**

### ***Timmia* Hedw.**

#### ***Timmia austriaca* Hedw.**

- 1912 *Timmia* cf. *austriaca*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber.  
naturforsch. Ges. Freiburg i. B., XIX, p. 116.]



**Timmia bavarica** Hessel.

- 1910 *Timmia bavarica*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Diluvial

**Timmia megapolitana** Hedw.

- 1912 *Timmia megapolitana*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

**Timmia norvegica** Zett.

- 1910 *Timmia norvegica*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Diluvial
- 1912 *T. norvegica*. Dixon, H. N. in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, P. 231.] Late glacial
- 1914 *T. norvegica*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 18.] Glacial

**Polytrichaceae.****Catharinaea** Ehrh.**Catharinaea subundulata** (Goepp. et Menge.)

Broth. in Engl. & Prantl, die natürl. Pflanzenfam., Ed. 2, Bd. XI, 2 Hälfte, p. 523 (1925).

- 1853 *Polytrichum subundulatum* Goepp. & M. in Goeppert, H. R. Ueber die Bernsteinflora, p. 459. (Atrichum subundulatum Schimp., Traité de Pal. Végétale, I, p. 244.) Amber

Note. Neither Schimper nor any of the later writers seem to comment on this. It is presumably not specifically distinct from *C. undulata*.

**Catharinaea undulata** (L.) Web. et Mohr.

- 1922 *Catharinaea undulata*. Jessen, Knud og Rasmussen, Recent R. Et Profil Gennem en Tørvemose paa Faerøerne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent

**Oligotrichum** Lam. et De Cand.**Oligotrichum hercynicum** (Huds.) Lindb.

- 1912 *Oligotrichum hercynicum* Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

**Pogonatum** P. Beauv.**Pogonatum suburnigerum**

(Goepp. et Menge.) Dixon, comb. nov.

- 1853 *Polytrichum suburnigerum* Goepp. & M. in Goeppert, H. R. Ueber die Bernsteinflora, p. 459. Amber

Note. Schimper (Traité de Pal. Végétale, I, p. 244) points out that the remains being solely leaves, the specific position must be doubtful.

### **Pogonatum urnigerum (L.) P. Beauv.**

- 1902 *Pogonatum urnigerum*. Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.] Late glacial
- 1904 *P. urnigerum*. Weber, C. A. in Mueller, G. und Weber. Ueber eine fröhdiluviale ... Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanst. und Bergakad., Heft 40, p. 16.] Early glacial
- 1914 *P. urnigerum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

### **Polytrichum L.**

#### **Polytrichum alpinum L.**

- 1912 *Polytrichum alpinum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial
- 1914 *P. alpinum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

#### **Polytrichum attenuatum Menz.**

- 1909 *Polytrichum attenuatum*. Hartz, N. Bidrag til Danmarks tertiaere ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1922 *P. attenuatum*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent

#### **Polytrichum commune L.**

- 1897 *Polytrichum commune*. Beck, R. und Weber, C. A. Ueber ein Torflager ..... des sächsisch. Erzgebirges. [Zeitschr. d. deutsch. geol. Ges., XLIX, p. 666.] Diluvial
- 1909 *P. commune*. Hartz, N. Bidrag til Danmarks tertiaere..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *P. commune*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1914 *P. commune*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial
- 1917 *P. commune*. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 85.] Recent
- 1922 *P. commune*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent
- 1924 *P. commune*. Burrell, W. H. Pennine Peat. [The Naturalist, 1924, p. 148.] Recent

**Polytrichum Florissanti Knowlton.**

- 1916 (?) *Polytrichum Florissanti* Knowlton n. sp. A Review of the fossil plants ..... from .... Florissant, Colorado. [Proc. United States Nat. Mus., LI, p. 245; t. 12.] Tertiary. Florissant shales

Note. A seta with capsule; no leaves found. The author compares with *P. juniperinum*, but there can hardly be any reason for selecting this species as the nearest ally. The reference to *Polytrichum* itself is not certain. From the figure it certainly looks like this genus.

**Polytrichum gracile Menz.**

- 1914 *Polytrichum gracile*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

**Polytrichum juniperinum Willd.**

- 1904 *Polytrichum juniperinum*. Weber, C. A., in Müller, G. Ueber eine fröhdiluviale ..... Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanst. und Bergakad., Heft 40, pp. 15, 16.] Early glacial
- 1909 *P. juniperinum*. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1912 *P. juniperinum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, 116.] Glacial
- 1914 *P. juniperinum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

**Polytrichum piliferum Schreb.**

- 1910 *Polytrichum pilosum* Floercke (sic.). Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

Note. I presume that this refers to *P. pilosum* Neck., which is synonymous with *P. piliferum* Schreb.

**Polytrichum sexangulare Floerke.**

- 1914 *Polytrichum sexangulare*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial
- 1915 *P. sexangulare*. Camus, F. Sur les mousses trouvées dans ..... un mammouth. [Compt. Rend. Acad. Sci. Paris, CLX, p. 842.] Glacial

**Polytrichum strictum Banks.**

- 1909 *Polytrichum strictum*. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial

- 1910 *P. strictum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *P. strictum* var. *alpestre* Limpr. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial
- 1923 *P. strictum*. Baumberger, S., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 84.] Quaternary

### **Polytrichum subseptentrionale** Goepp. et Menge.

- 1853 *Polytrichum subseptentrionale* Goepp. & M. in Amber  
Goeppert, H. R. Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 459.]  
Note. Schimper (Traité de Pal. Végétale, I, p. 244) remarks on this that in view of the material available the affinity must be problematic, and even the genus may be doubtful.

### **Polytrichum** species.

- 1898 *Polytrichum* sp. Andersson, Gunnar. Stud. öfver Finlands ..... Kwartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.] Quaternary
- 1907 *Polytrichum* sp. Holst, N. O. Präglaciala Drysförande ..... nära Ystad. [Geol. Fören. Förh., XXIX, p. 232.] Preglacial
- 1908 *Polytrichum* sp. Dixon, H. N. in Lewis, F. J. The plant remains in the Scottish Peat Mosses. Part III. [Trans. Roy. Soc. Edinb., XLVI, p. 48.] Quaternary
- 1910 *Polytrichum* sp. Sukačev, V. N. Sur la trouvaille de la flore arctique fossile .... près du village Demianskoe ..... [Bull. Acad. Impér. Sc. St. Petersbourg, 1910, p. 460.] Quaternary
- 1910 *Polytrichum* sp. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
- 1912 *Polytrichum* sp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial
- 1918—20 *Polytrichum* sp. Docturowsky, V. S., and Kuriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Glacial

## **Hedwigiaceae.**

### **Hedwigia** Ehrh.

#### **Hedwigia albicans** (Web.) Lindb.

- 1914 *Hedwigia albicans*. Zmuda, A. J. Fossile Fl. des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

# Fontinalaceae.

## Fontinalis (Dill.) L.

### Fontinalis antipyretica L.

- 1914 *Fontinalis antipyretica*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial
- 1919 *F. antipyretica*? Gadeceau, E. Les Forêts submergées de Belle-Ile-en-mer. [Bull. biol. de la France, etc. LIII, p. 295.] Postglacial
- Note. Many fragments; almost certainly *F. antipyretica*.

### Fontinalis hypnoides Hartm.

- 1898 *Fontinalis hypnoides*. Andersson, Gunnar. Stud. öfver Finnlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.] Quaternary

### Fontinalis pristina Lesq.

- 1883 *Fontinalis pristina* Lesq. in Hayden, F. V. Tertiary Flora of United States. [Rep. of U. S. A. Geol. Survey, VIII, p. 135; t. 21, f. 9.] See also Britton & Hollick, Bull. Torr. Bot. Club, 34: 139; t. 9, f. 2, 2a. Tertiary Florissant shales
- Note. Britton and Hollick say the determination is questionable, Knowlton (Rev. of the Fossil Plants .... from .... Florissant..., p. 245) states that precisely similar structures have proved to be avian feathers. It is, to say the least, exceedingly dubious whether it is a moss.

### Fontinalis Sismondana Schimp.

- 1869 *Fontinalis Sismondana* Schimp., Traité de Pal. Végétale, I, p. 245. Figured by Sismonda, E. Matériaux pour servir à la Pal. d. terr. tert. du Piémont, 1865, t. XXXI bis. Tertiary
- Note. Schimper remarks that this is very close to *F. antipyretica*. He does not suggest wherein the difference consists.

### ? Fontinalis Tournalii (Brongn.) Schimp.

- 1828—38 *Muscites Tournalii* Brongn. Ad. Histoire des Végétaux Fossiles, p. 93, t. X. *Fontinalis* (?) *Tournalii* Schimp., Traité de Pal. Végétale, I, p. 245, t. VI, figs. 14, 15, 16 (nec Saporta, Végét. d. S. E. de la France, tab. X). Miocene
- Note. Schimper says that the characters recall a *Fontinalis* or a *Dichelyma* rather than any other pleurocarpous moss; it is a very small plant.

**Fontinalis species.**

- 1890 *Fontinalis* sp. Dawson, Sir Wm., and Penhallow, D. P. On the Pleistocene Flora of Canada. [Bull. Geol. Soc. Amer., I, p. 315.] Pleistocene
- 1898 *Fontinalis* sp. Andersson, Gunnar. Stud. öfver Finlands ..... Kvärtärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.] Quaternary
- 1900 *Fontinalis* sp. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley, [Rep. of 70th Meeting of Brit. Assoc., Bradford, 1900, Pt. 1, p. 335.] Pleistocene
- 1911 *Fontinalis* sp. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831 bis] Recent. Ice-land peat
- 1920 *Fontinalis* sp. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Ill. Bull., XVII, pp. 332, 335, 377.] Pleistocene

**Dichelyma Myr.**

- D. capillaceum*. cf. *Distichium capillaceum* (1920).  
*Dichelyma* sp. cf. *Fontinalis Tournalii*.

**Climaciaceae.****Climacium Web. et Mohr****Climacium dendroides (Dill.) Web. et Mohr**

- 1902 *Climacium dendroides*. Hartz, N. Bidrag til Danmarks seniglacial Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.] Late glacial
- 1904 *C. dendroides*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1910 *C. dendroides*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1912 *C. dendroides*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial
- 1914 *C. dendroides*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 250.] Diluvial
- 1923 *C. dendroides*? Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 334.] Quaternary
- 1924 *C. dendroides*. Beyle, M. Ueber einige Ablag. . . der Hamburger Gegend. Dritter Teil. [Mitteil. aus dem Mineralog.-geol. Staatsinstitut, Heft VI, p. 26.] Glacial

**Leucodontaceae.****Leucodon Schwaegr.****Leucodon sciuiroides (L.) Schwaegr.**

- 1905 *Leucodon sciuiroides*. Neuweiler, E. Die prähistor. Pleistocene

- Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]
- 1914 *L. sciurioides*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial
- 1923 *L. sciurioides*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary
- Note. *A. f. falcata* is also recorded, with the type.

## Antitrichia Brid.

### Antitrichia curtispindula (Hedw.) Brid.

- 1898 *Antitrichia curtispindula*. Andersson, Gunnar. Stud. öfver Finlands .... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 135.] Quaternary
- 1905 *A. curtispindula*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, pp. 37, 39.] Pleistocene  
(The latter reference as *Anomodon curtispindula*, lapsu calami).
- 1909 *A. curtispindula*. Hartz, N. Bidrag til Danmarks tertiære.... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial
- 1910 *A. curtispindula*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.] Post-glacial
- 1913 *A. curtispindula*. Beyle, M. Ueber einige Ablag... der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6 Beih., p. 83.] Glacial
- 1923 *A. curtispindula*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 334.] Quaternary

## Neckeraceae.

### Neckera Hedw.

#### Neckera complanata (L.) Hüben.

- 1905 *Neckera complanata*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, pp. 38, 40.] Pleistocene
- 1909 *N. complanata*. Hartz, N. Bidrag til Danmarks tertiære.... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *N. complanata*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.] Postglacial
- 1920 *N. complanata*. Reid, E. M. Two preglacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.] Preglacial  
Pliocene
- 1923 *N. complanata*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

- 1925 *N. complanata*? Weyland, H. Beitr. zur Kenntn. fossiler Moose. I. [Senckenbergiana, VII, Heft 1/2, p. 53, t. III.] Upper Pliocene

### ***Neckera crispa* (L.) Hedw.**

- 1901 *Neckera crispa*. Clerici, E. Contrib. alla ..... geologia dei dintorni di Roma. [Rend. Lincei, Roma, X, p. 79.] Recent
- 1905 *N. crispa*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas..... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.] Pleistocene
- 1909 *N. crispa*. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1923 *N. crispa*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Liet. 8, p. 334.] Quaternary
- 1924 *N. crispa*. Maffei, Luigi. Contrib. allo stud. d. flora fossile ..... de Pianico. [Atti Istit. Bot. Univ. Pavia, Ser. III, 1/2, p. 53, t. III.] Quaternary

### ***Neckera pennata* (L.) Hedw.**

- 1914 *Neckera pennata*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

### ***Neckera pumila* Hedw.**

- 1897 *Neckera pumila*. Fischer, Ed. Nachtr. zum Pflanzenverzeichnis. .... von Pianico-Sellere. [Neues Jahrb. f. Mineralogie, II, p. 106.] Interglacial
- 1910 *N. pumila*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.] Postglacial

### ***Neckera* species.**

- 1908 *Neckera* sp. Engelhardt, H., and Kinkel, F. Oberpliocäne Fl. und Fauna. .... des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 188, t. XXII, figs. 18—21.] Upper Pliocene

### ***Homalia* (Brid.) Bry. eur.**

#### ***Homalia trichomanoides* (Schreb.) Bry. eur.**

- 1904 *Homalia trichomanoides*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1914 *H. trichomanoides*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial
- 1920 *H. trichomanoides*. Reid, E. M. Two preglacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXXVI, p. 111.] Pliocene



**Pinnatella (C. M.) Fleisch.****Pinnatella species.**

- 1915 *Pinnatella* sp. Reid, Clement and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, pp. 51.] See also Bryologist, XIX, p. 51 (1916.)  
 Note. Fragments only, showing traces of an intra-marginal border to the leaves, and in other respects agreeing with the § *Urocladium* of *Pinnatella*. Near to *P. alopecuroides* (Hook.) Fleisch., but probably specifically distinct.

**Thamnium Bry. eur.****Thamnium alopecurum (L.) Bry. eur.**

- 1909 *Porotrichum alopecurum* (L.) Mitt. Hartz, N. Bidrag til Danmarks tertiære .... Flora. [Danmarks geol. Undersøgelse, II Række, No. 20, p. 261.] Interglacial  
 1925 *Thamnium alopecurum*. Weyland, H. Beitr. zur Kenntn. fossiler Moose. I. [Senckenbergiana, VII, Heft 1/2, p. 11, fig. 1.] Upper Pliocene

**Thamnium species.**

- 1908 *Thamnium* sp. Engelhardt, H., and Kinkel, F. Oberpliocäne Fl. und Fauna .... des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 189, t. 22, figs. 14, 15.] Upper Pliocene  
 Note. I should say *T. alopecurum*, without doubt.

**Lembophyllaceae.****Isothecium Brid.****Isothecium myosuroides (Dill.) Brid.**

- 1909 *Isothecium myosuroides*. Hartz, N. Bidrag til Danmarks tertiære .... Flora. [Danmarks geol. Undersøgelse, II Række, No. 20, p. 261.] Interglacial  
 1910 *Eurhynchium myosuroides* (Dill.) Schimp. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial  
 1913 *Isothecium myosuroides*. Beyle, M. Ueber einige Ablagerung... der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6, Beih., p. 83.] Glacial

**Isothecium viviparum (Neck.) Lindb.**

- 1905 *Isothecium myurum* (Poll.) Brid. Neuweiler, E. Pleistocene Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]

- 1909 *I. myurum*. Hartz, N. Bidrag til Danmarks terraere .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *Eurhynchium myurum* (Poll.) Dixon. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial
- 1914 *Isothecium myurum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

## Fabroniaceae.

*Fabronia Raddi*, cf. *Muscites serratus* Goepp. & Ber.

## Entodontaceae.

### *Orthothecium* Bry. eur.

#### *Orthothecium chryseum* (Schwaegr.) Bry. eur.

- 1910 *Stereodon chryseus* (Schwaegr.) Mitt.? Hesselbo, A. Diluvial Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

#### *Orthothecium intricatum* (Hartm.) Bry. eur.

- 1912 *Orthothecium intricatum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

#### *Orthothecium rufescens* (Dicks.) Bry. eur.

- 1912 *Orthothecium rufescens*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

### *Pylaisia* Bry. eur.

#### *Pylaisia polyantha* (Schreb.) Bry. eur.

- 1913 *Pylaisia polyantha*. Beyle, M. Ueber einige Abg. lag. fossiler Pflanz. der Hamburger Gegend, Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6, Beih., p. 83.] Glacial

## Leskeaceae.

### *Heterocladium* Bry. eur.

#### *Heterocladium squarrosulum* (Voit) Lindb.

- 1914 *Heterocladium squarrosulum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

**Heterocladium species.**

- 1908 *Heterocladium* sp. Engelhardt, N., and Kinkelid, F. Oberpliocäne Fl. und Fauna .... des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 189, t. 22, figs. 24—27.] Upper Pliocene  
 Note. Weyland [Senckenbergiana, VII, Heft 1/2, p. 13] states that no material of this was available. The figure of the leaf showing nerve reaching nearly to apex seems to preclude *Heterocladium*, though the cell structure is not inconsistent with this genus.

**Anomodon Hook. et Tayl.****Anomodon longifolius (Schleich.) Bruch.**

- 1923 *Anomodon longifolius*. Baumberger, E., etc. Die Quaternary diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]

**Anomodon viticulosus (L.) Hook. et Tayl.**

- 1905 *Anomodon viticulosus*. Neuweiler, E. Die prähistor. Pleistocene Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 37.]  
 1907 *A. viticulosus*. Dixon, H. N., in Lewis, F. J. Peat Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.]  
 1909 *A. viticulosus*. Hartz, N. Bidrag til Danmarks Interglacial tertiære .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]  
 1914 *A. viticulosus*. Zmuda, A. J. Fossile Flora des Diluvial Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]  
 1923 *A. viticulosus*. Baumberger, E., etc. Die diluvialen Quaternary Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]  
 1925 *A. viticulosus*. Weyland, H. Beitr. zur Kenntn. Upper fossiler Moose. I. [Senckenbergiana, VII, Heft Pliocene 1/2, p. 12, Fig. 4.]  
 = *Anomodon* sp. Engelhardt, H. & Kinkelid, F. Oberpliocäne Fl. und Fauna... des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 189, t. 22, Figs. 16, 17.]  
 Note. As Weyland remarks, there is nothing to preclude this being *A. viticulosus*.

**Lescuraea Bry. eur.****Lescuraea striata (Schwaegr.) Bry. eur.**

- 1912 *Lescuraea striata*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

**Leskea Hedw.****Leskea polycarpa Ehrh.**

- 1898 *Leskea polycarpa*. Andersson, Gunnar. Stud. öfver Quaternary

Finlands .... Kwartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.]

### **Leskea species.**

- 1908 *Leskea* sp. Engelhardt, H. & Kinkel, F. Oberpliocäne Fl. und Fauna .... des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 188, t. 22, figs. 28, 29.] Upper Pliocene

Note. The determination as a *Leskea* cannot be justified; the upper half of the leaf shows no nerve. Weyland, H. (Beitr. zur Kenntn. fossiler Moose, in Senckenbergiana, VII, Heft 1/2) refers to this, and figures it (Fig. 6), remarking that in the condition of the fragment it must be left indeterminate.

### **Pseudoleskea Bry. eur.**

#### **Pseudoleskea filamentosa (Dicks.) Broth.**

- 1912 *Pseudoleskea atrovirens*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

#### **Pseudoleskea atrovirens (Dicks.) (P. patens Limpr.)**

- 1915 *Pseudoleskea atrovirens*. Reid, Clement & E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 52.] Pliocene

Note. A slight doubt attaches to the determination, owing to the remains being associated with such species as *Eurhynchium speciosum* Schimp., *Philonotis fontana* etc.; the objection being somewhat neutralized by the presence also of *Homalothecium sericeum* and *Ditrichum tortile*. Structurally the leaves quite agreed.

### **Thuidium Bry. eur.**

#### **Thuidium abietinum (Dill.) Bry. eur.**

- 1903 *Thuidium abietinum*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone .... [Zeitschr. f. Naturwiss., LXXXVI, p. 269.] Diluvial
- 1911 *T. abietinum*. Stoller, J. Die Flora der jung-glazialen Ablag. Ostpreussens. [Jahrb. d. Kgl. preuss. geol. Landesanst., XXXI, T. II, H. 1, p. 123.] Glacial
- 1914 *T. abietinum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial
- 1918—20 *T. abietinum*. Docturovsky, V. S., & Kudrjashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Glacial

#### **Thuidium antiquum Schimp.**

- 1865 *Thuidium antiquum* Schimp. in Heer, Osw. Die Urwelt der Schweiz, 1 Aufl., p. 497. Quaternary lignites of Switzerland
- Note. Schimper (Traité de Pal. Végét., I.

p. 253) refers to this — without naming it — as apparently identical with *T. delicatulum*. Later, in Heer's work, he gives it the above name, and refers to it as being very close to *T. delicatulum*.

### **Thuidium delicatulum (Dill.) Mitt.**

- 1869 *Thuidium delicatulum*. Schimper, W. P. *Traité de Pal. végétale*, I, p. 253 (cf. *T. antiquum*). Quaternary lignites of Switzerland Postglacial
- 1910 *T. delicatulum*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]
- 1910 *T. delicatulum* (or *T. recognitum* Lindb.). Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1911 *T. delicatulum*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora . . . . Norddeutschlands. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 135.] Diluvial
- 1914 *T. delicatulum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial
- 1918—20 *T. delicatulum*. Doctuirowsky, V. S., & Kудриасhev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Postglacial
- 1923 *T. delicatulum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

### **Thuidium elatinum (Sap.) Schimp., Traité de pal. végétale**, I, p. 250 (1869); t. VI, fig. 22—26.

- 1865 *Muscites elatinus* Saporta G. *Etudes sur la vég. du Sud-Est de la France*. [Ann. des Sc. nat. Par., 5<sup>e</sup> sér., IV, p. 33; t. I, f. 2.] Tertiary
- Note. Schimper places this "entre *T. abietinum* et *T. delicatulum*". The figures however show a clearly bipinnate branching, which precludes *T. abietinum*. The stem-leaves if correctly drawn are erect and short-pointed, which would suggest *T. delicatulum* or *T. recognitum*. There is apparently no reason to suppose it is distinct from one of our modern species.

### **Thuidium oeningense (Braun) Schimp. op. et loc. cit.**

- 1851 *Muscites oeningensis* Braun Al. Verzeichn. d. foss. Pflanz. von Oeningen. [Stizenberger, Uebersicht d. Verstein. Badens, p. 72]. *Hypnum oeningense* Schimp. MS. in Heer, O., *Flora tert. Helvetiae*, I, p. 29; t. III, f. 8; II, t. XCIV, f. 20, e; III, t. CXLII, f. 26, 27. Tertiary
- Note. Schimper states that this resembles *T. minutulum*.

A specimen of the plant figured by Heer (I, t. III, f. 8) is in the Geological Department of the British Museum (No. 40884). The stem is distinctly pinnate, and it may well be a *Thuidium*, but it need by no means be compared with *T. minutulum*.

**Thuidium Philiberti** Limpr.

- 1905 *Thuidium Philiberti*. Neuweiler, E. Die prähistor. Pleistocene  
Pflanzenreste Mitteleuropas.... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]
- 1910 *T. Philiberti*. Dixon, H. N. Some "Neolithic" Postglacial  
Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]
- 1923 *T. Philiberti*. Baumberger, E., etc. Die diluvialen Quaternary  
Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]

**var. pseudo-tamarisci** (Limpr.) Ryan & Hagen

- 1905 *Thuidium pseudo-tamarisci*. Neuweiler, E., op. cit., Pleistocene  
pp. 38, 40.

**Thuidium recognitum** Lindb. cf. *T. delicatulum*, 1910.**Thuidium tamariscinum** (Hedw.) Bry. eur.

- 1905 *Thuidium tamariscinum*. Neuweiler, E. Die prähistor. Pleistocene  
Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]
- 1908 *T. tamariscinum*. Pax, F. Grundzüge der Pflanzenverbreitung in den Karpathen, II, p. 44. Post-tertiary
- 1909 *T. tamariscinum*. Hartz, N. Bidrag til Danmarks Interglacial  
tertiære.... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]
- 1910 *T. tamariscinum*. Dixon, H. N. Some "Neolithic" Postglacial  
Moss remains from Fort William. [Ann. Scott. Nat. Hist. Soc., 1910, p. 104.]
- 1913 *T. tamariscinum*. Beyle, M. Ueber einige Ablagerung. Glacial  
.... der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6 Beih., p. 83.]
- 1920 *T. tamariscinum*. Reid, E. M. Two pre-glacial Floras Pliocene  
from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.]
- 1923 *T. tamariscinum*. Baumberger, E., etc. Die diluvialen Quaternary  
Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]

**Thuidium species.**

- 1912 *Thuidium* sp. Stark, P. Beitr. zur Kenntn. der Glacial  
eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]
- 1912 *Thuidium* sp. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

**Helodium** (Sull.) Warnst.**Helodium lanatum** (Stroem) Broth.

- 1907 *Thuidium Blandovii* (Web. & Mohr) Bry. eur. Peat  
Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.]
- 1909 *Thuidium Blandovii*. Hartz, N. Bidrag til Danmarks Interglacial  
tertiære .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

- 1910 *Thuidium lanatum* (Stroem) Hagen. Hesselbo, A. Diluvial  
Mosrester fra Diluviet ved Skaerumhede. [Dan-  
marks geol. Undersøgelse, II Raekke, No. 25,  
p. 108.]
- 1914 *Helodium Blandovii* (Web. & Mohr). Zmuda, A. J. Diluvial  
Fossile Flora des Krakauer Diluviums. [Bull. int.  
Acad. Sci. Cracovie d. sc. math. et nat., Sér. B,  
No. 2B, p. 249.]
- 1918—20 *Helodium lanatum*. Docturovsky, V. S., and Postglacial  
Kudriashev, V. Results of Russian studies on  
peat moors. [Reports on Peat, 4.]

## Hypnaceae.

### *Amblystegium* Bry. eur.

#### *Amblystegium Kochii* Bry. eur.

- 1904 *Amblystegium Kochii*. Bell, A. M. Implementi- Late glacial  
ferous Sections at Wolvercote (Oxfordshire).  
[Quart. Journ. Geol. Soc., LX, p. 124.]
- 1920 *A. Kochii*. Reid, E. M. Two pre-glacial Floras Pliocene  
from Castle Eden. [Quart. Journ. Geol. Soc.,  
LXXVI, p. 111.]
- 1924 *A. Kochii*. Beyle, M. Ueber einige Ablagerung... Pleistocene  
der Hamburger Gegend. Dritter Teil. [Mitteil.  
aus dem Mineralog-geol. Staatsinstitut, Heft VI,  
p. 26.]

#### *Amblystegium riparium* Bry. eur.

- 1912 *Amblystegium riparium*. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]
- 1914 *Leptodictyum riparium* (L.) Warnst. Zmuda, A. J. Diluvial  
Fossile Flora des Krakauer Diluviums. [Bull. int.  
Acad. Sci. Cracovie d. sc. math. et nat., Sér. B,  
No. 2B, p. 249.]
- 1923 *A. riparium*. Douin, R. Les mousses ..... des  
tufs de Lautaret. [Rev. Génér. de Bot., XXXV,  
p. 119.]

#### *Amblystegium serpens* Bry. eur.

- 1904 *Amblystegium serpens*. Bell, A. M. Implementi- Late glacial  
ferous Sections at Wolvercote (Oxfordshire).  
[Quart. Journ. Geol. Soc., LX, p. 124.]
- 1912 *A. serpens*. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1914 *A. serpens*. Weber, O. A. Die Mammutflora von Glacial  
Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1,  
p. 19.]
- 1920 *A. serpens*. Reid, E. M. Two pre-glacial Floras Pliocene  
from Castle Eden. [Quart. Journ. Geol. Soc.,  
LXXVI, p. 111.]

**Amblystegium varium (Hedw.) Lindb.**

- 1903 *Amblystegium varium*. Range, Paul. Das Diluv. Diluvial  
von Lübeck und seine Dryastone ..... [Zeitschr. f.  
Naturwiss., LXXVI, p. 253.]
- 1904 *A. varium*. Reid, Clement. East Norfolk Geology. Preglacial  
[Trans. Nort. & Norw. Nats. Soc., VII, p. 293.]
- 1909 *A. radicale* Bry. eur. Hartz, N. Bidrag til Dan- Interglacial  
marks tertiære ..... Flora. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 20, p. 260.]

**Amblystegium species.**

- 1908 *Amblystegium* sp. Holst, N. O. Efterskörd från Late glacial  
de seneglaciala Lagren vid Toppeladugård. [Sver.  
geol. Undersökn. Årsbok, II, No. 2, p. 16.]
- 1908 *Amblystegium* sp. Weber, C. A. Die Moostorf- Pleistocene  
schichten ..... zwischen Sarkau und Cranz.  
[Engler's Bot. Jahrb., XLII, pp. 42, 43.]
- 1910 *Amblystegium* sp. Sukačev, V. N. Sur la .....  
flore arctique fossile ..... près du village De-  
mianskœ, gouv. Tobolsk. [Bull. Acad. Impér. Sci.  
St. Pétersbourg, 1910, p. 460, fig. g.]
- 1912 *Amblystegium* sp. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber. na-  
turforsch. Ges. Freiburg i. B., XIX, 116.]
- 1918—20 *Amblystegium* sp. Docturovsky, V. S., and Postglacial  
Kudriashev, V. Results of Russian studies on  
peat moors. [Reports on Peat, 4.]
- 1923 *Amblystegium* sp. Baumberger, E., etc. Die di- Quaternary  
luvialen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, p. 521.]

**Amblystegiella Loeske****Amblystegiella confervoides (Brid.) Loeske**

- 1909 *Amblystegium* cfr. *confervoides*. Hartz, N. Bidrag Interglacial  
til Danmarks tertiære ..... Flora. [Danmarks  
geol. Undersøgelse, II Raekke, No. 20, p. 260.]

**Homomallium (Schimp.) Loeske****Homomallium incurvatum (Schrad.) Loeske**

- 1905 *Hypnum incurvatum* Schrad. Neuweiler, E. Die Pleistocene  
prähistor. Pflanzenreste Mitteleuropas ..... [Vier-  
teljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]

**Hygroamblystegium Loeske****Hygroamblystegium curvicaule (Jur.) Loeske**

- 1914 *Amblystegium curvicaule* Jur. Weber, C. A. Die Glacial  
Mammutflora von Borna. [Abh. Nat. Ver. Bremen,  
XXIII, Heft 1, p. 19.]

**Hygroamblystegium fallax (Brid.) Loeske**

- 1903 *Amblystegium fallax* var. *spinifolium* (Schimp.) Diluvial  
Range, Paul. Das Diluv. von Lübeck und seine  
Dryastone ..... [Zeitschr. f. Naturwiss., LXXVI,  
p. 253.]



**Hyroamblystegium filicinum (L.) Broth.**

- 1901 *Amblystegium filicinum* (L.) De Not. Geheeb, A. Ueber ein fossiles Laubmoos aus der Umgebung von Fulda. [Beihefte zum Bot. Centralblatt, Bd. X, Heft 3, p. 125.]
- 1904 *A. filicinum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1908 *A. filicinum*. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård. [Sver. geol. Undersökn. Arsbok, II, No. 2, p. 19.] Late glacial
- 1910 *A. filicinum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1912 *A. filicinum*, and var. *vallisclausae* (Wils.). Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1914 *A. filicinum*. Weber, O. A. Die Mammutflora von Bornä. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 19.] Glacial
- 1914 *Cratoneuron filicinum* (L.) Roth. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 429.] Diluvial
- 1915 *A. filicinum*. Reid, Clement, and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.] Pliocene
- 1922 *A. filicinum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Pleistocene
- 1922 *Hypnum filicinum* L. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent
- 1923 *A. filicinum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335, 521.] Quaternary

**Cratoneuron (Sulliv.) Roth****Cratoneuron commutatum (Hedw.) Roth**

- 1890 *Hypnum commutatum* Hedw. Dawson, Sir Wm., and Penhallow, D. P. On the Pleistocene Flora of Canada. [Bull. Geol. Soc. Amer., I, p. 315.] Pleistocene
- 1900 *H. commutatum*. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley. [Rep. of 70th Meeting of Brit. Assoc., Bradford. Pt. II, p. 335.] Pleistocene
- 1904 *Cratoneuron commutatum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1908 *H. commutatum*. Augé, L. Note sur ..... tufs quaternaires de Piécourt. [Bull. Soc. Etudes Sc. nat. Nîmes, XXXV, p. 67.] Quaternary
- 1909 *H. commutatum*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, I, p. 58.]

- 1920 *C. commutatum*. Baker, Frank C. The Life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 332, 335, 377.] Pleistocene
- 1923 *C. commutatum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 195, 335, 521.] Quaternary
- 1923 *C. cfr. commutatum*. Baumberger, op. cit., p. 145, 335.] Quaternary
- 1923 *C. commutatum*. Klähn, Hans. Die Petrogenese der Kalktuffe . . . . [Geol. Arch., 2, p. 305.] Kalktuffe
- 1923 *H. commutatum*. Douin, R. Les mousses . . . des tufs de Lautaret. [Rev. Génér. de Bot., XXXV, p. 120.]

### **Cratoneuron decipiens (De Not.) Broth.**

- 1904 *Thuidium decipiens* De Not. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1910 *Th. decipiens*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersegelse, II Raekke, No. 25, p. 108.] Diluvial

### **Cratoneuron falcatum (Brid.) Roth**

- 1904 *Hypnum falcatum* Brid. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1910 *H. falcatum*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial
- 1922 *H. falcatum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Pleistocene
- 1923 *Cratoneuron falcatum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335.] Quaternary
- 1923 *H. falcatum*. Douin, R. Les mousses . . . des tufs de Lautaret. [Rev. Génér. de Bot., XXXV, p. 120.]

### **Cratoneuron irrigatum (Zett.) Roth**

- 1912 *Hypnum irrigatum* Zett. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. Naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial
- 1923 *H. irrigatum*. Douin, R., Les mousses . . . des tufs de Lautaret. [Rev. Génér. de Bot., XXXV, p. 120.]

### **Cratoneuron species.**

- 1892 *Hypnum filicinum* or *commutatum*. Boulay, N. Pliocene Flore pliocène du Mont-Dore, p. 45.

## **Drepanocladus Roth (Hypnum § Harpidium auct.)**

### **Drepanocladus aduncus (Hedw.) Moenk.**

- 1869 *Hypnum aduncum* Hedw. Schimper, W. P. Traité de Pal. Végétale, I, p. 254. Glacial deposits, Württemberg

- 1903 *H. aduncum* var. *sparsifolium* (Warnst.). Range, Diluvial  
Paul. Das Diluvialgebiet von Lübeck und seine  
Dryastone.... [Zeitschr. für Naturwiss., LXXXVI,  
p. 253.]
- 1904 *Drepanocladus aduncus*. Bell, A. M. Implementi- Lateglacial  
ferous Sections at Wolvercote (Oxfordshire.)  
[Quart. Journ. Geol. Soc., LX, p. 124.]
- 1904 *D. aduncus*? Weber, C. A. in Mueller, G. Ueber Early glacial  
eine fröhdiluviale .... Flora bei Lüneburg. [Abh.  
Kgl. preuss. geol. Landesanstalt und Bergakad.  
Heft 40, p. 16.]
- 1908 *H. aduncum*. Weber, C. A. Die Moostorfschicht.  
..... zwischen Sarkau und Cranz. [Engl. Bot.  
Jahrb., XLII, pp. 40, 43.]
- 1908 *H. aduncum*. Pax, F. Grundzüge der Pflanzen- Post-tertiary  
verbreitung in den Karpathen, II, p. 44.
- 1909 *H. aduncum*. Travis, W. G. Plant remains in Peat  
peat ..... at Aintree. [Trans. Liverpool Bot.  
Soc., I, p. 5.]
- 1909 *H. aduncum*. Schuster, J. Paläobot. Not. aus Schiefer-  
Bayern. [Ber. bayer. bot. Ges., XII, pp. 1, 58.] kohlen
- 1910 *Amblystegium aduncum* (Hedw.) Sanio. Hesselbo, Diluvial  
A. Mosrester fra Diluviet ved Skaerumhede. [Dan-  
marks geol. Undersøgelse, II Raekke, No. 25,  
p. 108.]
- 1912 *H. aduncum*. Dixon, H. N., in Warren, S. H. Lateglacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1912 *Drepanocladus subaduncus* Warnst. Szafer, W. Eine Diluvial  
Dryasflora bei Krystynopol in Galizien. [Bull.  
int. Acad. Sci. Cracovie d. sc. math. et nat.,  
Sér. B, No. 2, p. 1107.]
- Note. The determination is said to be slightly  
doubtful.
- 1919 *D. aduncus*. Gadeceau, E. Les Forêts submergées Postglacial  
de Belle-Ile-en-mer. [Bull. biol. de la France,  
etc., LIII, p. 295.]
- 1920 *D. aduncus*. Baker, Frank C. The life of the Pleistocene  
Pleistocene or glacial period. [Univ. of Illinois  
Bull., XVII, pp. 245, 280, 377.]
- 1922 *H. aduncum*. Travis, W. G. On peaty bands in Peat  
the Wallasey sandhills. [Proc. Liverpool Geol.  
Soc., III, p. 209.]

### ***Drepanocladus aduncus* (Hedw.) Gr. Kneiffii**

- 1852 *Hypnum Noegerrathii* Weber C. O. Die Tertiär- Tertiary  
flora der niederrhein. Braunkohlenformation. [Pal-  
laeontographica, II, p. 227, t. XXV.]
- Note. Schimper (Traité de Pal. Végét., I, 250)  
refers this to *Hyp. aduncum* var. *Kneiffii*.
- 1896 *Hypnum aduncum* var. *groenlandicum* Heer. Engel, Pleistocene  
Th. Geognost. Wegweiser durch Württemberg.  
2<sup>e</sup> Aufl., p. 436.]
- 1905 *H. aduncum* var. *Kneiffii groenlandicum*. Neuweiler, Pleistocene  
E. Die prähistor. Pflanzenreste Mitteleuropas ...  
[Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6,  
p. 39.]
- 1909 *Amblystegium aduncum* (Hedw.) Sanio ? var. Interglacial  
*Kneiffii*. Hartz, N. Bidrag til Danmarks ter-

- tiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]
- 1909 *Hypnum* cfr. *Kneiffii*. Schuster, J. Paläobot. Not. Schiefer-  
aus Bayern. [Ber. bayer. bot. Ges., XII, p. 1, 58.] kohlen
- 1910 *Amblystegium Kneiffii* Bry. eur. Hesselbo, A. Diluvial  
Mosrester fra Diluviet ved Skaerumhede. [Dan-  
marks geol. Undersøgelse, II Raekke, No. 25,  
p. 108.]
- 1919 *Drepanocladus aduncus* var. *Kneiffii*. Gadeceau, E. Postglacial  
Les Forêts submergées de Belle-Ile-en-mer. [Bull.  
biol. de la France, etc., LIII, p. 295.]

### ***Drepanocladus aduncus* (Hedw.) Gr. pseudofluitans**

- 1904 *D. aduncus* var. *pseudofluitans* (Sanio). Bell, A. M. Late glacial  
Implementiferous Sections at Wolvercote (Ox-  
fordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]
- 1909 *Hypnum aduncum* var. *paternum* Sanio. Travis, Peat  
W. G. Plant remains in peat .... at Aintree.  
[Trans. Liverpool Bot. Soc., 1, p. 5.]
- 1909 *Drepanocladus pseudofluitans* (Sanio). Stoller, J. Early  
Die Pflanzenreste ..... in den Stuttgarter An- diluvial  
lagen. [Mittel. der geol. Abt. des k. württ.  
stat. Landes-Amts, No. 6. Beilage zu Jahresh. des  
Ver. für vaterl. Naturkunde in Württemberg,  
Jahrg. LXV, p. 73, fig. 1.]
- 1912 *H. aduncum* var. *pseudofluitans* Sanio. Dixon, H. Late glacial  
N., in Warren, S. H. A late Glacial stage in the  
Lea Valley. [Quart. Journ. Geol. Soc., LXVIII,  
p. 231.]
- 1919 *D. pseudofluitans* (Sanio). Gadeceau, E. Les Postglacial  
Forêts submergées de Belle-Ile-en-mer. [Bull. biol.  
de la France, etc., LIII, p. 295.]

### ***Drepanocladus badius* (Hartm.) Roth**

- 1914 *Drepanocladus badius*. Zmuda, A. J. Fossile Flora Diluvial  
des Krakauer Diluviums. [Bull. int. Acad. Sci.  
Cracovie d. sc. math. et nat., Sér. B, No. 2 B,  
p. 250.]

### ***Drepanocladus capillifolius* Warnst.**

- 1904 *Drepanocladus capillifolius*. Bell, A. M. Implemen- Late glacial  
tiferous Sections at Wolvercote (Oxfordshire).  
[Quart. Journ. Geol. Soc., LX, p. 124.]
- 1904 *Hypnum capillifolium* Warnst. Reid, Clement. East Preglacial  
Norfolk Geology. [Trans. Norf. & Norw. Nats.  
Soc., VII, p. 293.]
- 1910 *Amblystegium capillifolium* (Warnst.). Hesselbo, A. Diluvial  
Mosrester fra Diluviet ved Skaerumhede. [Dan-  
marks geol. Undersøgelse, II Raekke, No. 25,  
p. 108.]
- 1911 *D. capillifolius*. Zmuda, A. J., in Szafer, W. Early  
Ueber eine alt-diluviale Flora in Krystynopol in diluvial  
Wolhynien. [Kosmos, XXXVI, p. 337.]
- 1912 *D. capillifolius*. Szafer, W. Eine Dryasflora bei  
Krystynopol in Galizien. [Bull. int. Acad. Sci.]

- Cracovie d. sc. math. et nat., Sér. B. No. 2, p. 1107.]
- 1912 *H. capillifolium*. Dixon, H. N., in Warren, S. H. Lateglacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1914 *D. capillifolius*. Zmuda, A. J. Fossile Flora des Diluvial  
Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. Sc. math. et nat., Sér. B, No. 2 B, p. 250.]
- 1915 *H. capillifolium*. Reid, Clement and E. M. The Pliocene  
Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.]

### **Drepanocladus exannulatus** (Guemb.) Warnst.

- 1896 *Amblystegium exannulatum* (Guemb.) De Not. Pleistocene  
Andersson, Gunnar. Ueber das Fossile Vorkommen  
..... in Russland und Dänemark. [Bih. Svensk  
Vet.-Akad. Handl., XXII, Afd. III, No. 1, p. 6.] clay
- 1902 *A. exannulatum*. Hartz, N. Bidrag til Danmarks Late glacial  
senglaciale Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.]
- 1903 *Hypnum fluitans* var. *brachydictyon* Ren. Holzinger, J. M. Some Fossil Mosses. [Bryologist, VI, p. 93.] Pleistocene
- 1904 *Drepanocladus exannulatus*. Weber, C. A., in Mueller, G. Ueber eine fröhdiluviale .... Flora bei  
Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Early glacial
- 1904 *H. exannulatum*. Bell, A. M. Implementiferous Late glacial  
Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, 124.]
- 1905 *H. fluitans-exannulatum*. Neuweiler, E. Die prä- Pleistocene  
histor. Pflanzenreste Mitteleuropas ..... (Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 39.)
- 1907 *H. exannulatum* var. *brachydictyon* Ren. Dixon, H. N., in Lewis, F. J. Summary of Progress for Peat  
1907, p. 99. [Mem. Geol. Survey.]
- 1908 *H. exannulatum*. Weber, C. A. Die Moostorfschichten ..... zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 33, 40, 43.] Peat
- 1909 *Amblystegium exannulatum*. Hartz, N. Bidrag til Diluvial  
Danmarks tertiaere .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]
- 1910 *A. exannulatum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1912 *H. exannulatum*. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]
- 1912 *H. exannulatum* var. *orthophyllum* Milde. Dixon, H. N., in Warren, S. H., op. et loc. cit. Late glacial
- 1912 *H. purpurascens* Limpr. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]
- 1912 *H. fluitans* Gr. *exannulatum* var. *pinnatum* Boul. f. Preglacial  
Hawkesworth, E. A pre-glacial Lake-bed near Northallerton. [Naturalist, 1912, p. 204.]

- 1914 *H. exannulatum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 23.] Glacial
- 1914 *Warnstorfia exannulata* (Guemb.) Loeske. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial
- 1918 *D. exannulatus*. Heim, Arnold, & Gams, H. Inter-glaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXVIII, p. 27.] Interglacial
- 1918—20 *D. exannulatus*. Docturowsky, V. S., & Kudriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Interglacial
- 1919 *D. exannulatus*. Gadeceau, E. Les Forêts submergées de Belle-Ile-en-mer. [Bull. biol. de la France, etc., LIII, p. 295.] Postglacial
- 1922 *H. exannulatum*. Jessen, Knud, og Rasmussen, R. Et Provil Gennem in Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Række, No. 13, p. 12.] Recent
- 1923 *D. exannulatus*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 521.] Quaternary

### **Drepanocladus fluitans (L.) Gr. Rotae (De Not.)**

- 1903 *H. fluitans* var. *glaciale* Ren. Holzinger, J. M. Some Fossil Mosses. [Bryologist, VI, p. 94.] Pleistocene;  
below  
Kansas  
Drift
- 1904 *Hypnum fluitans* var. *falcifolium* Ren. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1908 *Drepanocladus fluitans* Gr. Rotae. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands... [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 119.] Diluvial
- 1909 *Amblystegium Rotae* De Not. Hartz, N. Bidrag til Danmarks tertiære Flora. [Danmarks geol. Undersøgelse, II Række, No. 20, p. 260.] Diluvial
- 1910 *Amblystegium Rotae*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Række, No. 25, p. 108.] Diluvial
- 1912 *H. exannulatum* Gr. Rotae. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1914 *H. purpurascens* Limpr. var. *Rotae* (De Not.). Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 23.] Glacial

### **Drepanocladus fluitans (L.) Warnst.**

- 1869 *Hypnum fluitans* L. Schimper, W. P. Traité de Pal. Végét., I, p. 254. Glacial deposits in Württemberg
- 1888 *Amblystegium fluitans* (L.) De Not. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from... Hoxne, in Suffolk. [Geol. Mag., Decade III, Vol. V, p. 444.] Glacial

- 1889 *A. fluitans*. Candler, Chas. Observations on some Pleistocene  
undescribed Lacustrine Deposits.... in Suffolk.  
[Quart. Journ. Geol. Soc., XLV, p. 507.]
- 1896 *H. fluitans* var. *tenuissimum* Schimp. Engel, Th.  
Geognostisch. Wegweiser durch Württemberg. 2e  
Aufl., p. 436.
- 1898 *A. fluitans*. Andersson, Gunnar. Stud. öfver Fin- Quaternary  
lands ..... Kvartärflora. [Bull. de la Com-  
mission géol. de Finlande, Tome II, No. 8, p. 135.]
- 1900 *Hypnum fluitans*. Penhallow, D. P. Canadian Pleistocene  
Pleistocene Flora of the Don Valley. [Rep. of 70th  
Meeting of Brit. Assoc., Bradford, 1900. Pt. II,  
p. 335.]
- 1901 *H. fluitans* f. *fossilis*. Geheeb, A. Ueber ein  
fossiles Laubmoos aus der Umgebung von Fulda.  
[Beih. zum Bot. Centralbl., X, Heft 3, p. 127.]
- 1902 *A. fluitans*. Hartz, N. Bidrag til Danmarks sen- Late glacial  
glaciale Flora og Fauna. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 11, p. 18.]
- 1904 *H. fluitans*. Bell, A. M. Implementiferous Sec- Late glacial  
tions at Wolvercote (Oxfordshire). [Quart. Journ.  
Geol. Soc., LX, p. 124.]
- 1904 *H. fluitans*. Reid, Clement. East Norfolk Geology. Preglacial  
[Trans. Norf. & Norw. Nats. Soc., VII, p. 293.]
- 1905 *H. fluitans* var. *tenuissimum* Schimp. Neuweiler, E. Pleistocene  
Die prähistor. Pflanzenreste Mitteleuropas .....  
[Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6,  
p. 39.]
- 1908 *Drepanocladus fluitans*. Stoller, J. Beitr. zur Diluvial  
Kenntn. der diluv. Flora Norddeutschlands .....  
[Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX,  
p. 119.]
- 1908 *Amblystegium fluitans*. Holst, N. O. Efterskörd Late glacial  
från de senglaciala Lagren vid Toppeladugård.  
[Sver. Geol. Undersökning Arsbok, II, No. 2,  
p. 19 bis.]
- 1909 *A. fluitans*. Hartz, N. Bidrag til Danmarks terti- Diluvial  
aere ..... Flora. [Danmarks geol. Undersøgelse,  
II Raekke, No. 20, p. 260.]
- 1909 *H. fluitans*. Schuster, J. Paläobot. Not. aus Schiefer-  
Bayern. [Ber. bayer. bot. Ges., XII, I, p. 58.] kohlen
- 1910 *H. fluitans*. Dixon, H. N. Some "Neolithic" Moss Postglacial  
remains from Fort William. [Ann. Scott. Nat.  
Hist., 1910, p. 105.]
- 1910 *A. fluitans*. Hesselbo, A. Mosrester fra Diluviet Diluvial  
ved Skaerumhede. [Danmarks geol. Undersøgelse,  
II Raekke, No. 25, p. 108.]
- 1911 *D. fluitans*. Stoller, J. Beitr. zur Kenntn. der Diluvial  
diluvialen Flora Norddeutschlands. [Jahrb. d. Kgl.  
preuss. geol. Landesanstalt, XXXII, T. 1, H. 1,  
p. 135.]
- 1911 *A. fluitans*. Stoller J., op. cit., p. 130. Diluvial
- 1912 *H. fluitans*. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1912 *H. fluitans* var. *falcatum* Schimp. Dixon, H. N., Late glacial  
op. et loc. cit.
- 1912 *H. fluitans*. Stark, P. Beitr. zur Kenntn. der eis- Glacial  
zeitlich. Fl. und Fauna Badens. [Ber. natur-  
forsch. Ges. Freiburg i. B., XIX, p. 116.]

- 1914 *H. fluitans*. Weber, C. A. Die Mammutflora von Glacial  
Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1,  
p. 23.]
- 1914 *D. fluitans* var. *pseudostramineus* (C. M.) (as *D. Diluvial*  
*pseudostramineus* (C. M.) Roth). Zmuda, A. J.  
Fossile Flora des Krakauer Diluviums. [Bull. int.  
Acad. Sci. Cracovie d. sc. math. et nat., Sér.  
B, No. 2 B, p. 250.]
- 1917 *Hypnum* cfr. *fluitans*. Weber, C. A. Die Pflanzen-  
welt des Rabutzer Beckentons.... [Bot. Jahrb.  
Syst., LIV, Beibl. No. 120, p. 14.]
- 1918 *D. fluitans*. Heim, Arnold, & Gams, H. Inter- Interglacial  
glaziale Bildungen bei Wildhaus. [Vierteljahr.  
naturforsch. Ges. Zürich, LXVIII, p. 27.]
- 1918—20 *D. fluitans*. Docturowsky, V. S., and Ku- Postglacial  
driashev, V. Results of Russian studies on peat  
moors. [Reports on Peat, 4.]
- 1919 *D. fluitans*. Gadeceau, E. Les Forêts submergées Postglacial  
de Belle-Ile-en-mer. [Bull. biol. de la France, etc.,  
LIII, p. 295.]
- 1920 *D. fluitans*. Baker, Frank C. The life of the Pleistocene  
Pleistocene or glacial period. [Univ. of Illinois  
Bull., XVII, pp. 332, 335, 377.]
- 1923 *D. fluitans*. Bäumberger, E., etc. Die diluvialen Quaternary  
Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz,  
geotechn. Ser., Lief. 8, pp. 84, 336.]

### **Drepanocladus Hollosianus (Schillb.)**

Györfy MS., Broth. in Engl. & Prantl, Pflanzen-  
fam., Musci, Ed. 2, II, p. 523.

Syn. *Hypnum* sp.? Hollós, L., in Kecszenét Multja  
és Jelene, 1896, p. 25, fig. 22.

*Hypnum* Hollósi Schillb. in Term. tud. Közlöny,  
XXX, p. 436; Budapest, 1898 (nomen solum).

- 1912 *Hypnum* Hollósi Schillb. in Math. és term. Pleistocene,  
tud. Ertesito, XXX, p. 636 (cf. pp. 646—649); probably  
figs. 1, 3, 4, 6, 8, 9.

Note. Full descriptions and figures are given  
in the 1912 paper. The author compares it with  
*Acrocladium cuspidatum* and *Hyp. Taramellianum*  
Farneti (proximum).

### **Drepanocladus intermedius (Lindb.) Warnst.**

- 1898 *Amblystegium intermedium* (Lindb.) Lindb. An Quaternary  
Andersson, Gunnar. Stud. öfver Finlands .....  
Kvartärflora. [Bull. de la Commission géol. de  
Finlande, Tome II, No. 8, p. 135.]
- 1904 *Hypnum intermedium* Lindb. Bell, A. M. Imple- Late glacial  
mentiferous Sections at Wolvercote (Oxfordshire).  
[Quart. Journ. Geol. Soc., LX, p. 124.]
- 1904 *H. intermedium*. Reid, Clement. East Norfolk Preglacial  
Geology. [Trans. Norf. & Norw. Nats. Soc.,  
VII, p. 193.]
- 1905 *H. intermedium*. Neuweiler, E. Zur Interglazial- Interglacial  
flora der schweiz. Schieferkohlen. [Ber. d. schwei-  
zerisch. bot. Ges., Heft XV. Beilage. Neunter  
Ber. d. zürch. bot. Ges., p. 98.]
- 1909 *H. intermedium*. Schuster, J. Paläobot. Not. aus Schiefer-  
Bayern. [Ber. bay. bot. Ges., XII, 1, p. 58.] kohlen



- 1910 *A. intermedium*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1911 *H. intermedium*. Stoller, J. Die Flora der jungglazialen Ablag. Ostpreussens. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXXI, II, p. 130.] Early glacial
- 1912 *H. intermedium*. Whitehead, Goodchild, and Reid. Some notes on "moorlog"..... [Essex Naturalist, XVI, p. 56.] Submarine peat deposit.
- 1914 *H. intermedium*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 21.] Glacial
- 1914 *Limprichtia intermedia* (Lindb.) Loeske. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial
- 1918 *Drepanocladus intermedius*. Heim, Arnold, & Gams, H. Interglaz. Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXVIII, p. 27 bis.] Interglacial
- 1920 *D. intermedius*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 332, 335, 377.] Pleistocene
- 1922 *H. intermedium*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat
- 1923 *D. intermedius*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 145, 335, 336, 521.] Diluvial

***Drepanocladus latifolius* (Lindb. et Arn.) Broth.**

- 1910 *Amblystegium latifolium* (Lindb. & Arn.) Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

***Drepanocladus lycopodioides* (Schwaegr.) Warnst.**

- 1904 *Hypnum lycopodioides* Schwaegr.? Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1914 *H. lycopodioides*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 22.] Glacial
- 1922 *H. lycopodioides*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat

***Drepanocladus revolvens* (Sw.) Warnst.**

- 1896 *Hypnum revolvens* Sw. Farneti, R. Ricerche di briol. palaeont. .... al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 54.] Glacial
- 1890 *H. revolvens*. Dawson, Sir Wm., and Penhallow, D. P. On the Pleistocene Flora of Canada. [Bull. Geol. Soc. Amer., I, p. 315.] Pleistocene
- 1900 *H. revolvens*. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley. [Rep. of 70th Meeting, Brit. Assoc., Bradford. Pt. II, p. 336.] Pleistocene

- 1903 *H. revolvens*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone ..... [Zeitschr. f. Naturwiss., LXXVI, p. 254.] Diluvial
- 1903 *H. revolvens*. Holzinger, J. M. Some Fossil Mosses. [Bryologist, VI, p. 94.] Pleistocene, below Kansas drift.
- 1904 *H. revolvens*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1904 *H. revolvens*. Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.] Preglacial
- 1909 *Amblystegium Cossoni* (Schreb.) Lindb. Nørregaard, E. M. Et senglacialt .... fra Dejbjerg Bakker. [Med. fra Dansk geol. Fören., No. 15, p. 326.] Late glacial
- 1910 A. *Cossoni*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1912 *H. revolvens*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Flora und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial
- 1912 *H. Cossoni*. Stark, P., op. cit., p. 116. Glacial
- 1912 *H. revolvens*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1914 *H. revolvens*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 22.] Glacial
- 1915 *H. revolvens sensu latiore*. Camus, F. Sur les mousses trouvées dans .... un mammoth. [Compt. Rend. Acad. Sci. Paris, CLX, p. 842.] Glacial
- 1917 *Hypnum* cfr. *revolvens*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons ..... [Bot. Jahrb. Syst., LIV, Beibl. No. 120, p. 14.]
- 1918 *Drepanocladus revolvens*. Heim, Arnold, & Gams, H. Interglaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXIII, p. 27.] Interglacial
- 1920 *D. revolvens*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 178, 184, 228, 241, 377.] Pleistocene
- 1922 *H. revolvens*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat
- 1923 *D. revolvens*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335, 521.] Quaternary

### ***Drepanocladus scorpioides* (L.) Warnst.**

- 1896 *Hypnum scorpioides* L. Farneti R. Ricerche di briol. palaeont ..... al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 55.] Glacial
- 1903 *H. scorpioides*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone .... [Zeitschr. f. Naturwiss., LXXVI, p. 269.] Diluvial
- 1904 *H. scorpioides*. Geinitz, C., und Weber, C. A. Ueber ein Moostorflager ..... der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.] Postglacial

- 1908 *Scorpidium scorpioides* (L.) Limpr. Weber, C. A. Pleistocene  
Die Moostorfschichten .... zwischen Sarkau und  
Cranz. [Engl. Bot. Jahrb., XLII, pp. 41, 44.]
- 1908 *Drepanocladus scorpioides*. Weber, C. A. Hypnum Pleistocene  
*turgescens* Schimp. .... [Engl. Bot. Jahrb., XLII,  
p. 239.]  
Note. This is a correction of *D. turgescens* to  
the present species, from p. 38 of the same  
volume.
- 1908 *Amblystegium scorpioides* (L.) Lindb. Holst, N. O. Late glacial  
Efterskörd från de senglaciala Lagren vid Top-  
peladugård ..... [Sver. geol. Undersökn. Arsbok,  
II, No. 2, p. 19 bis.]
- 1909 *A. scorpioides*. Hartz, N. Bidrag til Danmarks Diluvial  
tertiaere .... Flora. [Danmarks geol. Undersøgelse,  
II Raekke, No. 20, p. 260.]
- 1909 *H. scorpioides*. Travis, W. G. Plant remains in Peat  
peat ..... at Aintree. [Trans. Liverpool Bot.  
Soc., I, p. 5.]
- 1909 *Sc. scorpioides*. Schuster, J. Paläobot. Not. aus Schiefer-  
Bayern. [Ber. bay. bot. Ges., XII, 1, p. 58 bis.] kohlen
- 1910 *A. scorpioides*. Hesselbo, A. Mosrester fra Diluvial  
diluviet ved Skaerumhede. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 25, p. 108.]
- 1911 *H. scorpioides*. Dixon, H. N., in Lewis, F. J. Arctic bed in  
The plant remains in the Scottish peat mosses. peat, West  
Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.] Shetland
- 1912 *H. scorpioides*. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1912 *Sc. scorpioides*. Szafer, W. Eine Dryasflora bei Glacial  
Krystynopol in Galizien. [Bull. int. Acad. Sci.  
Cracovie d. sc. math. et nat., Sér. B. No. 2,  
p. 1109.]
- 1914 *Sc. scorpioides*. Zmuda, A. J. Fossile Flora des Diluvial  
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-  
covie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.]
- 1914 *H. scorpioides*. Weber, C. A. Die Mammutflora Glacial  
von Borna. [Abh. Nat. Ver. Bremen, XXIII,  
Heft 1, p. 24.]
- 1917 *H. scorpioides*. Weber, C. A. Die Pflanzenwelt Interglacial  
des Ralutzer Beckentons .... [Bot. Jahrb. Syst.,  
LIV, Beibl. Nr. 120, p. 14.]
- 1917 *Sc. scorpioides*. Rudolph, K. Untersuch. über den Recent  
Aufbau böhmischer Moore. [Abh. k. k. zool.-bot.  
Ges. Wien, IX, p. 83.]
- 1918 *Sc. scorpioides*. Heim, Arnold, & Gams, H. Interglacial  
interglaziale Bildungen bei Wildhaus. [Viertel-  
jahr. naturforsch. Ges. Zürich, LXIII, p. 27 bis.]
- 1922 *H. scorpioides*. Travis, W. G. On peaty bands in Peat  
the Wallasey sandhills. [Proc. Liverpool Geol.  
Soc., III, p. 209.]
- 1922 *Sc. scorpioides*. Jessen, Knud, og Rasmussen, R. Recent  
Et Profil Gennem en Tørvemose paa Faerørne.  
[Danmarks geol. Undersøgelse, IV Raekke, No. 13,  
p. 12.]
- 1923 *Sc. scorpioides*. Baumberger, E., etc. Die diluvi- Quaternary  
alen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, pp. 146, 337.]

**Drepanocladus Sendtneri** (Schimp.) Warnst.

- 1869 *Hypnum Sendtneri* Schimp. *Traité de Pal. végét.*, Tertiary I, p. 250.  
Syn. *H. Weberianum* Goebb. ex Weber, C. Otto. Die Tertiärflora der niederrhein. Braunkohlenformation, in *Palaeontographica*, II, p. 227, t. XXV, f. 7, 10—13. (nec *H. Weberianum* Schimp.).
- 1896 *H. Sendtneri*. Farneti, R. *Ricerche di briol. palaeont. .... al periodo glaciale*. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 55.] Glacial
- 1904 *H. Sendtneri* (with some slight doubt). Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1904 *H. Sendtneri* (or ? *H. Wilsoni*). Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.] Preglacial
- 1905 *H. Sendtneri*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zurich, L, Heft 6, p. 39.] Pleistocene
- 1905 *H. Sendtneri*? Neuweiler, E. Zur Interglazialflora der schweiz. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 98.] Interglacial
- 1909 *H. Sendtneri*. Travis, W. G. Plant remains in peat .... at Aintree. [Trans. Liverpool Bot. Soc., I, p. 5.] Peat
- 1910 *Amblystegium Sendtneri* (Schimp.) De Not. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1912 *H. Sendtneri*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1914 *Drepanocladus Sendtneri*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 22.] Glacial
- 1922 *H. Sendtneri*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat
- 1923 *D. Sendtneri*. Baumberger, E., etc. Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 145, 336.] Quaternary
- 1925 *D. Sendtneri*. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Interglacial

**Drepanocladus trifarius** (Web. & Mohr) Broth.

- 1905 *Hypnum trifarium* (Web. & Mohr). Neuweiler, E. Zur Interglazialflora der schweiz. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 97.] Interglacial
- 1908 *H. trifarium*. Weber, C. A. Die Moostorfschichten .... zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 40, 41, 43.] Pleistocene
- 1909 *Calliergon trifarium* (Web. & Mohr) Kindb. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bay. bot. Ges., XII, 1, p. 58.] Schieferkohlen

- 1912 *H. trifarium*. Stark, P. Beitr. zur Kenntn. der Glacial  
eiszeitlich. Fl. und Fauna Badens. [Ber. natur-  
forsch. Ges. Freiburg i. B., XIX, pp. 90, 116.]
- 1914 *Pseudocalliergon trifarium* (Web. & Mohr) Loeske. Diluvial  
Zmuda, A. J. Fossile Flora des Krakauer Dilu-  
viums. [Bull. int. Acad. Sci. Cracovie d. sc.  
math. et nat., Sér. B. No. 2 B, p. 250.]
- 1917 *H. trifarium*. Rudolph, K. Untersuch. über den Recent  
Aufbau böhmischer Moore. [Abh. k. k. zool.-bot.  
Ges. Wien, IX, p. 83.]
- 1918 *Calliergon trifarium*. Heim, Arnold, & Gams, H. Interglacial  
Interglaziale Bildungen bei Wildhaus. [Viertel-  
jahr. naturforsch. Ges. Zürich, LXIII, p. 27.]
- 1923 *Calliergon trifarium*. Baumberger, E., etc. Die Quaternary  
diluvialen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, pp. 84, 145,  
336, 521.]

### **Drepanocladus Tundrae (Arn.)**

- 1911 ? *Calliergon Tundrae* (Arn.). Zmuda, A. J. in Early  
Szafer, W. Ueber eine alt-diluviale Flora in diluvial  
Krystynopol in Wolhynien. [Kosmos, XXXVI,  
p. 338.]

### **Drepanocladus turgescens (Jens.) Broth.**

- 1904 *Hypnum turgescens* Jens. Reid, Clement. East Preglacial  
Norfolk Geology. [Trans. Norf. & Norw. Nats.  
Soc., VII, p. 293.]
- 1908 *H. turgescens*. Weber, C. A. Die Moostorfschichten Pleistocene  
..... zwischen Sarkau und Cranz. [Engl.  
Bot. Jahrb., XLII, p. 38 sqq.]  
Note. This was corrected later, in the same  
volume, to D. Sendtneri.
- 1909 *Amblystegium turgescens* (Jens.) Lindb. Nørregaard, Late glacial  
E. M. Et senglacialt .... fra Dejbjerg Bakker.  
[Meddel. fra Dansk geol. Fören., No. 15, p. 325.]
- 1910 *A. turgescens*. Hesselbo, A. Mosrester fra Diluviet Diluvial  
ved Skaerumhede. [Danmarks geol. Undersøgelse,  
II Raekke, No. 25.]
- 1912 *H. turgescens*. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1912 *Drepanocladus turgescens*. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]
- 1914 *Pseudocalliergon turgescens* (Jens.) Loeske. Zmuda, Diluvial  
A. J. Fossile Flora des Krakauer Diluviums.  
[Bull. int. Acad. Sci. Cracovie d. sc. math. et  
nat., Sér. B, No. 2 B, p. 250.]
- 1917 *H. turgescens*. Weber, C. A. Die Pflanzenwelt Interglacial  
des Rabutzer Beckentons .... [Bot. Jahrb. Syst.,  
LIV, Beibl. No. 120, p. 14.]
- 1923 *Calliergon turgescens* (Jens.) Kindb. Baumberger, Quaternary  
E., etc. Die diluvialen Schieferkohlen der Schweiz.  
[Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8,  
pp. 145, 337, 521.]

**Drepanocladus vernicosus** (Lindb.) Warnst.

- 1904 *Hypnum vernicosum* Lindb. Geinitz, E., und Weber, C. A. Ueber ein Moostorflager .... der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.] Postglacial
- 1908 *H. vernicosum* ? Weber, C. A. Die Moostorfschichten ..... zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 40, 41, 43.] Pleistocene
- 1911 *Drepanocladus vernicosus*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXXII, T. 1, H. 1, p. 135.] Diluvial
- 1912 *D. vernicosus*. Szafer, W. Eine Dryasflora bei Krystynopol in Galizien. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2, p. 1106.] Glacial
- 1914 *Limprichtia vernicosa* (Lindb.) Loeske. Zmuda, A. J., Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial
- 1914 *H. vernicosum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 21.] Glacial
- 1917 *D. vernicosus*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons .... [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.] Interglacial
- 1922 *H. vernicosum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat
- 1925 *D. vernicosus*. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Interglacial

**Drepanocladus Wilsoni** (Schimp.) Roth.

- 1904 *Hypnum Wilsoni* Schimp. ? Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.] Preglacial  
Note. Possibly *D. Sendtneri* (Schimp.).
- 1908 *Drepanocladus Wilsoni*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 119.] Diluvial
- 1909 *H. Wilsoni*. Travis, W. G. Plant remains in peat .... at Aintree. [Trans. Liverpool Bot. Soc., I, p. 5.] Peat
- 1910 *D. Wilsoni*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelser, II Raekke, No. 25, p. 108.] Diluvial
- 1912 *H. Wilsoni*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1914 *H. Wilsoni*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 22.] Glacial
- 1918—20 *D. Sendtneri* var. *Wilsoni* (Schimp.). Docuturovsky, V. S., and Kudriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Interglacial

**Drepanocladus**, undetermined species.

- 1923 *Drepanocladus* sp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 336.] Quaternary
- 1925 *Drepanocladus* sp. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Novaya Zemlya peat

**Calliergon** (Sull.) Kindb.**Calliergon cordifolium** (Hedw.) Kindb.

- 1902 *Amblystegium cordifolium* (Hedw.) De Not. Hartz, N., Bidrag til Danmarks senglaciale Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial
- 1904 *Calliergon cordifolium*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1909 *A. cordifolium*. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1910 *A. cordifolium*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

**Calliergon diluvianum** (Schimp.) Dix., comb. nov.

- 1869 *Hypnum diluvianum* Schimp. Traité de Pal. Végét., I, p. 253. Quaternary lignites of Switzerland
- Note. Schimper compares this with *C. giganteum*. Gams considers it may be *C. sarmentosum* (cfr. Baumberger, E., etc., in Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 520).
- 1923 *H. diluvianum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 521.] Quaternary

**Calliergon giganteum** (Schimp.) Kindb.

- 1898 *Amblystegium giganteum* (Schimp.) De Not. Andersson, Gunnar. Stud. öfver Finlands ..... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 135.] Quaternary
- 1902 *A. giganteum*. Hartz, N. Bidrag til Danmarks senglaciale Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial
- 1903 *Hypnum giganteum* Schimp. Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone ..... [Zeitschr. f. Naturwiss., LXXVI, p. 256.] Diluvial
- 1904 *Calliergon giganteum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1904 *H. giganteum*. Weber, C. A., in Müller, G. Ueber eine frühdiluviale ..... Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Preglacial
- 1904 *H. giganteum*. Geinitz, E., und Weber, C. A. Ueber ein Moostorflager ..... der Rostocker Heide. Postglacial

- [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.]
- 1905 *H. giganteum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas ..... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 39 bis.] Pleistocene
- 1905 *H. giganteum*, var. Neuweiler, E. Zur Interglazialflora der schweizerisch. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 96.] Interglacial
- 1908 *A. giganteum*. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård ..... [Sver. geol. Undersökning Arsbok, II, No. 2, p. 19.] Late glacial
- 1908 *H. giganteum*. Weber, C. A. Die Moostorfschichten .... zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 40, 41, 44.] Pleistocene
- 1909 *A. giganteum*. Hartz, N. Bidrag til Danmarks tertiare .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Diluvial
- 1909 *C. giganteum*. Schuster, J. Palaeobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, 1, p. 58.] Schieferkohlen
- 1910 *A. giganteum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1911 *H. giganteum*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.] Recent Ice-land peat
- 1912 *H. giganteum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1912 *C. giganteum*. Szafer, W. Eine Dryasflora bei Krystynopol in Galizien. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2, p. 1108.] Glacial
- Note. Zmuda gives as a synonym "*C. Richardsoni* Zmuda (nicht Kindb.) in Kosmos, XXXVI, p. 337."
- 1912 *H. giganteum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial
- 1914 *C. giganteum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial
- 1914 *H. giganteum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 24.] Glacial
- 1917 *C. giganteum*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons.... [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.] Interglacial
- 1917 *H. giganteum*. Rudolph, K. Untersuch. über den Aufbau böhmischer Moore. [Abh. k. k. zool.-bot. Ges., Wien, IX, p. 84.] Recent
- 1918 *C. giganteum*. Beyle, M. Ueber einige Ablag. fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst., XXXVI, p. 40.] Glacial
- 1918 *C. giganteum*. Heim, Arnold, & Gams, H. Interglaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXIII, p. 27 bis.] Interglacial



- 1922 *H. giganteum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat
- 1923 *C. giganteum*. Baumberger, E., etc., Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 145, 336, 521.] Quaternary
- 1924 *H. giganteum*. Beyle, M. Ueber einige Ablag. fossiler Pflanzen der Hamburger Gegend. Dritter Teil. [Mitteil. aus dem Mineralog-geol. Staatsinstitut, Heft VI, p. 26.] Glacial

### **Calliergon Richardsoni (Mitt.) Kindb.**

- 1903 *Hypnum Richardsoni* (Mitt.) Lesq. & James. Holzinger, J. M. On some fossil mosses. [Bryologist, VI, p. 94.] Pleistocene, below Kansas drift
- 1904 *H. Richardsoni*? Reid, Clement. East Norfolk Geology. [Trans. Norfolk & Norwich Nat. Soc., VII, p. 293.] Preglacial
- 1911 *Calliergon Richardsoni*. Zmuda, A. J., in Szafer, W. Ueber eine alt-diluv. Flora in Krystynopol in Wolhynien. [Kosmos, XXXVI, p. 337.] Early diluvial  
Note. cfr. note on *C. giganteum* (1912, Szafer) above.
- 1912 *H. Richardsoni*. Whitehead, Goodchild, and Reid. Some notes on "moor-log" .... [Essex Naturalist, XVI, p. 56.] Marine peat deposit
- 1914 *H. Richardsoni*. Weber, C. A. Die Mammutfloora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 24.] Glacial
- 1914 *C. Richardsoni*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial
- 1917 *H. Richardsoni*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons .... [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.] Interglacial
- 1920 *C. Richardsoni*. Baker, Frank O. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 228, 241, 377.] Pleistocene
- 1925 *C. Richardsoni*. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Peat in Nova Zemlya

### **Calliergon sarmentosum (Wahl.) Kindb.**

- 1869 *Hypnum sarmentosum* Wahl. Schimper, W. P. Traité de Pal. Végét., I, p. 253, bis. Quaternary lignites, Switzerland; and glacial deposits in Württemberg
- 1888 *Acroceratium sarmentosum* (Wahl.) Mitt. Reid. Clement, and Ridley, H. N. Fossil Arctic Plants from .... Hoxne, in Suffolk. [Geol. Mag., Decade III, vol. V, p. 444.] Glacial
- 1896 *H. sarmentosum*. Farneti, R. Ricerche di briol. palaeont. .... al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 57.] Glacial

- 1896 *H. sarmentosum*. Engel, Th. Geognost. Wegweiser Diluvial  
durch Württemberg. 2e Aufl., p. 436.
- 1912 *H. sarmentosum*? Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1912 *Hypnum* cfr. *sarmentosum*. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Ges. Freiburg i. B., XIX,  
p. 116.]
- 1914 *Calliergon sarmentosum*. Zmuda, A. J. Fossile Diluvial  
Flora des Krakauer Diluviums. [Bull. int. Acad.  
Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B,  
p. 249.]
- 1918 *C. sarmentosum*. Heim, Arnold, & Gams, H. Inter- Interglacial  
glaziale Bildungen bei Wildhaus. [Vierteljahr. na-  
turforsch. Ges. Zürich, LXIII, p. 28.]
- 1923 *C. sarmentosum*. Baumberger, E., etc. Die dilu- Quaternary  
vialen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, p. 521.]

### **Calliergon stramineum (Dicks.) Kindb.**

- 1897 *Calliergon stramineum*. Beck, R. und Weber, C. A. Early  
Ueber ein Torflager ..... des sächsischen Erz- diluvial  
gebirges. [Zeitschr. d. D. geol. Ges., XLIX, p. 667.]
- 1898 *Amblystegium stramineum* (Dicks.) De Not. Quaternary  
Andersson, Gunnar. Stud. öfver Finlands .... Kvar-  
tärflora. [Bull. de la Commission géol. de Fin-  
lande, Tome 2, No. 8, p. 135.]
- 1904 *C. stramineum*. Bell, A. M. Implementiferous Sec- Late glacial  
tions at Wolvercote (Oxfordshire). [Quart. Journ.  
Geol. Soc., LX, p. 124.]
- 1907 *Hypnum stramineum* Dicks. Dixon, H. N., in Peat  
Lewis, F. J. Summary of Progress for 1907,  
p. 99. [Mem. Geol. Survey.]
- 1908 *A. stramineum*. Holst, N. O. Efterskörd från Late glacial  
de senglaciala Lagren vid Toppeladugård.....  
[Sver. geol. Undersökning Arsbok, II, No. 2, p. 19.]
- 1910 *A. stramineum*. Hesselbo, A. Mosrester fra Dilu- Diluvial  
viet ved. Skaerumhede. [Danmarks geol. Under-  
søgelse, II Række, No. 25, p. 108.]
- 1912 *H. stramineum*. Stark, P. Beitr. zur Kenntn. der Glacial  
eiszeitlich. Fl. und Fauna Badens. [Ber. natur-  
forsch. Ges. Freiburg i. B., XIX, p. 116.]
- 1912 *H. stramineum*. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1914 *C. stramineum*. Zmuda, A. J. Fossile Flora des Diluvial  
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-  
covie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]
- 1918—20 *C. stramineum*. Docturovsky, V. S. and Ku- Postglacial  
driashev, V. Results of Russian studies on peat  
moors. [Reports on Peat, 4.]
- 1922 *C. stramineum*. Jessen, Knud, og Rasmussen, R. Recent  
Et Profil Gennem en Tørvemose paa Faerørne.  
[Danmarks geol. Undersøgelse, IV Række, No. 13,  
p. 12.]

**Calliergon** undetermined species.

- 1869 *Hypnum stramineum* Dicks. or near it. Schimper, *Traité de Pal. Végét.*, I, p. 253.] Quaternary lignites of Switzerland  
 1905 *Hypnum*, § *Calliergon* sp. Neuweiler, E. Zur Interglazialflora der schweizerisch. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch bot. Ges., p. 97.] Interglacial  
 1923 *Calliergon* sp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 337.] Quaternary

**Acrocladium** Mitt.**Acrocladium cuspidatum** (L.) Lindb.

- 1888 *Acroceratium cuspidatum* (L.) Mitt. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from.... Hoxne, in Suffolk. [Geol. Mag., Decade III, vol. V, p. 444.] Glacial  
 1898 *Acrocladium cuspidatum*. Andersson, Gunnar. Stud. öfver Finlands .... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 194.] Quaternary  
 1899 *A. cuspidatum*. Bertrand, C. E. Description d'un échantillon de charbon papyracé .... [Ann. Soc. Géol. du Nord, XXVIII, p. 186.] Pleistocene  
 1904 *A. cuspidatum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial  
 1909 *A. cuspidatum*. Hartz, N. Bidrag til Danmarks tertiære .... Flora. [Danmarks geol. Undersøgelse, II Række, No. 20, p. 260.] Interglacial  
 1910 *Hypnum cuspidatum* L. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial  
 1911 *H. cuspidatum*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831.] Recent. Ice-land peat  
 1912 *H. cuspidatum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial  
 1912 *H. cuspidatum*. Stark, P. Beitr. zur Kenntn. der eiszzeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial  
 1912 *A. cuspidatum*. Hawkesworth, E. A pre-glacial Lake-bed near Northallerton. [Naturalist, 1912, p. 204.] Preglacial  
 1922 *H. cuspidatum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat  
 1923 *A. cuspidatum*? Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 146, 337, 521.] Quaternary  
 1924 *H. cuspidatum*. Beyle, M. Ueber einige Ablag. fossiler Pflanzen der Hamburger Gegend. Dritter Teil. [Mitteil. aus dem Mineralog-geol. Staatsinstitut, Heft VI, pp. 23, 26.] Glacial

[*Acrocladium squarrosus* (L.) Lindb., Jessen & Rasmussen in Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12 (1922) is an unknown species, and probably a *lapsus calami*.]

***Acrocladium* undetermined species.**

- 1908 *Acrocladium* sp. Holst, N. O. Efterskörd från Lateglacial  
de senglaciala Lagren vid Toppeladugård .....  
[Sver. geol. Undersökning Arsbok, II, p. 16.]

***Hygrohypnum* Lindb.**

(*Hypnum* § *Limnobium* auct.).

***Hygrohypnum alpestre* (Sw.) Loeske.**

- 1903 *Hypnum alpestre* Sw. Range, Paul. Das Diluvial- Diluvial  
gebiet von Lübeck und seine Dryastone .....  
[Zeitschr. für Naturwiss., LXXVI, p. 254.]

***Hygrohypnum dilatatum* (Wils.) Loeske.**

- 1910 *Amblystegium dilatatum* (Wils.) Lindb. Hesselbo, Diluvial  
A. Mosrester fra Diluviet ved Skaerumhede. [Dan-  
marks geol. Undersøgelse, II Raekke, No. 25,  
p. 108.]  
1912 *Hypnum dilatatum* Wils. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

***Hygrohypnum lignitorum* (Schimp.) Dix., comb. nov.**

- 1869 *Hypnum lignitorum* Schimp. Traité de Pal. Végét., Quaternary  
I, p. 253. lignites,  
Note. Neuweiler in Ber. d. Zürcher. bot. Ges. Dürnten,  
XV, p. 94 (1905) says "Zwischen *H. palustre* und Switzerland  
*H. ochraceum* stehend". This is in agreement with  
Schimper's note; but Gams in his work on "Die  
Schieferkohlen der Schweiz", p. 28, cites Meylan  
as referring it to *Calliergon trifarium*, which does  
not seem probable.

***Hygrohypnum molle* (Dicks.) Loeske.**

- 1910 *Amblystegium molle* (Dicks.) Lindb. ? Hesselbo, A. Diluvial  
Mosrester fra Diluviet ved Skaerumhede. [Dan-  
marks geol. Undersøgelse, II Raekke, No. 25,  
p. 108.]  
1912 *Hypnum molle* Dicks. Dixon, H. N., in Warren, Lateglacial  
S. H. A late Glacial stage in the Lea Valley.  
[Quart. Journ. Geol. Soc., LXVIII, p. 231.]

***Hygrohypnum ochraceum* (Turn.) Loeske.**

- 1869 *Hypnum ochraceum* Turn. Schimper, W. P. Traité Quaternary  
de Pal. Végét., I, p. 253. lignites,

- 1912 *Hyp. ochraceum*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber. natur-  
forsch. Ges. Freiburg i. B., XIX, p. 90.]
- 1914 *Hygr. ochraceum*. Zmuda, A. J. Fossile Flora des Diluvial  
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-  
covie d. sc. math. et nat., Sér. B, No. 2 B,  
p. 250.]

### **Hygrohypnum palustre (Huds.) Loeske.**

- 1905 *Hypnum palustre* Huds. Neuweiler, E. Die prä- Pleistocene  
histor. Pflanzenreste Mitteleuropas ..... [Vier-  
teljahr. naturforsch. Ges. Zürich, L, Heft 6,  
p. 39.]
- 1910 *Hyp. palustre*. Dixon, H. N. Some "Neolithic" Postglacial  
moss remains from Fort William. [Ann. Scott.  
Nat. Hist., 1910, p. 105.]  
Note.. The species is a little doubtful.
- 1923 *Hygr. palustre*. Baumberger, E., etc. Die diluvi- Quaternary  
alen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, p. 336.]
- 1923 *Hygrohypnum* *cf.* *palustre*. Baumberger, op. cit., Quaternary  
pp. 145, 336.

### **Hygrohypnum Smithii (Sw.) Broth.**

- 1912 *Hypnum arcticum* Sommerf. Stark, P. Beitr. zur Glacial  
Kenntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Ges. Freiburg i. B., XIX. p. 90.]

## **Campylium (Sull.) Bryhn.**

### **Campylium chrysophyllum (Brid.) Bryhn.**

- 1904 *Campylium chrysophyllum*. Bell, A. M. Implemen- Lateglacial  
tiferous Sections at Wolvercote (Oxfordshire).  
[Quart. Journ. Geol. Soc., LX, p. 124.]
- 1910 *Amblystegium chrysophyllum (Brid.)* De Not. Hes- Diluvial  
selbo, A. Mosrester fra Diluviet ved Skaerumhede.  
[Danmarks geol. Undersøgelse, II Raekke, No. 25,  
p. 108.]
- 1914 *Hypnum chrysophyllum* Brid. Weber, C. A. Die Glacial  
Mammutflora von Borna. [Abh. Nat. Ver. Bremen,  
XXIII, Heft 1, p. 19.]

### **Campylium helodes (Spr.) Broth.**

- 1907 *Hypnum elodes* Spr.? Hartmann, F. Die Fossile Diluvial  
Flora von Ingramsdorf, p. 25.
- 1911 *H. elodes*. Dixon, H. N., in Lewis, F. J. The West Shet-  
plant remains in the Scottish peat mosses. Part land peat,  
IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.] arctic bed.

### **Campylium insubricum (Farneti) Dix., comb. nov.**

- 1896 *Hypnum insubricum* sp. nov. Farneti, R. Ricerche Glaciali  
di briol. palaeont .... al periodo glaciale. [Atti  
del Istit. Bot. della Reale Univers. di Pavia,  
Ser. II, vol. V, p. 53, t. IV.]

Note. The author refers this to *Campylium*.

**Campylium polygamum** (Bry. eur.) Bryhn.

- 1904 *Hypnum polygamum* (Bry. eur.) Wils. Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.] Preglacial
- 1905 *H. polygamum*. Neuweiler, E. Zur Interglazialflora der schweizerisch. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. Zürcherisch. bot. Ges., p. 98.] Interglacial
- 1909 *H. polygamum*. Travis, W. G. Plant remains in peat ..... at Aintree. [Trans. Liverpool Bot. Soc., I, p. 5.] Peat
- 1909 *Amblystegium polygamum* Bry. eur. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Række, No. 20, p. 260.] Interglacial
- 1910 *A. polygamum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Række, No. 25, p. 108.] Diluvial
- 1912 *A. polygamum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial
- 1914 *A. polygamum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 20.] Glacial
- 1923 *Campylium polygamum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 335.] Diluvial

**Campylium protensum** (Brid.) Broth.

- 1902 *Amblystegium protensum* Lindb. Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Række, No. 11, p. 11.] Late glacial
- 1910 *A. protensum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Række, No. 25, p. 108.] Diluvial
- 1912 *Hypnum protensum* Brid. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial
- 1914 *H. protensum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 20.] Glacial

**Campylium Sommerfeltii** (Myr.) Bryhn.

- 1909 *Campylium Sommerfeltii*. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Række, No. 20, p. 260.] Interglacial

**Campylium stellatum** (Schreb.) Lang. & Jens.

- 1888 *Campylium stellatum*. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from ..... Hoxne, in Suffolk. [Geol. Mag., Decade III, Vol. V, p. 444.] Glacial
- 1902 *Amblystegium stellatum* (Schreb.) Lindb. Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Række, No. 11, p. 15.] Late glacial

- 1904 *C. stellatum*. Weber, C. A., in Müller G. Ueber Preglacial  
eine frühdiluviale .... Flora bei Lüneburg. [Abh.  
Kgl. preuss. geol. Landesanstalt und Bergakad.,  
Heft 40, p. 16.]
- 1904 *Hypnum stellatum* Schreb. Geinitz, E., und Weber, Postglacial  
C. A. Ueber ein Moostorflager ..... der Rostocker  
Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in  
Mecklenburg, LVIII, p. 13.]
- 1907 *H. stellatum*? Hartmann, F. Die Fossile Flora von Diluvial  
Ingramsdorf, p. 14.
- 1908 *H. stellatum*. Weber, C. A. Die Moostorfschich- Recent  
ten ..... zwischen Sarkau und Cranz. [Engl.  
Bot. Jahrb., XLII, p. 43.]
- 1909 *C. stellatum*. Nørregaard, E. M. Et senglacialt .... Late glacial/  
fra Dejbjerg Bakker ..... [Meddel. fra Dansk  
geol. Fören., No. 15, p. 326.]
- 1912 *H. stellatum*. Dixon, H. N., in Warren, S. H. Late glacial  
A late Glacial stage in the Lea Valley. [Quart.  
Journ. Geol. Soc., LXVIII, p. 231.]
- 1912 *H. stellatum*. Stark, P. Beitr. zur Kenntn. der Glacial  
eiszeitlich. Fl. und Fauna Badens. [Ber. natur-  
forsch. Ges. Freiburg i. B., XIX, p. 116.]
- 1914 *H. stellatum*. Weber, C. A. Die Mammutflora Glacial  
von Borna. [Abh. Nat. Ver. Bremen, XXIII,  
Heft 1, p. 20.]
- 1914 *C. stellatum*. Zmuda, A. J. Fossile Flora des Glacial  
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-  
covie d. sc. math. et nat., Sér. B, No. 2B,  
p. 249.]
- 1915 *H. stellatum* (with some slight doubt). Camus, F. Glacial  
Sur les mousses trouvées dans ..... un mammoth.  
[Compt. Rend. Acad. Par., CLX, p. 843.]
- 1917 *H. stellatum*. Rudolph, K. Untersuch. über den Recent  
Aufbau böhmischer Moore. [Abh. k. k. zool.-bot.  
Ges. Wien, IX, p. 84.]

### **Campylium undetermined species.**

- 1923 *Campylium* sp. Baumberger, E., etc. Die dilu- Quaternary  
vialen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, p. 335.]

### **Hyocomium Bry. eur.**

#### **Hyocomium flagellare (Dicks.) Bry. eur.**

- 1910 *Hyocomium flagellare*. Dixon, H. N. Some "Neoli- Postglacial  
thic" moss remains from Fort William. [Ann.  
Scott. Nat. Hist., 1910, p. 105.]
- 1919 *H. flagellare*. Gadeceau, E. Les Forêts submergées Postglacial  
de Belle-Ile-en-mer. [Bull. biol. de la France,  
etc., LIII, p. 295.]

### **Ctenidium (Schimp.) Mitt.**

#### **Ctenidium molluscum (Hedw.) Mitt.**

- 1911 *Hypnum molluscum* Hedw. Dixon, H. N., in Le- Recent, ice-  
wis, F. J. The plant remains in the Scottish land peat  
peat mosses. Part IV. [Trans. Roy. Soc. Edinb.,  
XLVII, p. 831.]

- 1923 *C. molluscum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335.] Quaternary

### **Rhytidiadelphus (Lindb.) Warnst.**

#### **Rhytidiadelphus loreus (Dill.) Warnst.**

- 1910 *Hylocomium loreum* (Dill.) Bry. eur. Dixon, H. N. Postglacial  
Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]  
1924 *Hyl. loreum*. Burrell, W. H. Pennine Peat. [Naturalist, 1924, p. 148.] Recent

#### **Rhytidiadelphus squarrosus (L.) Warnst.**

- 1853 *Hypnum squarrosus* L. Goepfert, H. R. Ueber die Bernstein Flora. [Monatsber. d. Berliner Akad., 1853, p. 459.] Amber  
1888 *Hylocomium squarrosus* (L.) Bry. eur. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from ..... Horne, in Suffolk. [Geol. Mag., Decade III, Vol. V, p. 444.] Lateglacial  
1909 *Hyl. squarrosus*. Hartz, N. Bidrag til Danmarks tertiære ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial  
1910 *Hyl. squarrosus*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial  
1922 *Hyl. squarrosus*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerøerne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent  
1924 *Hyl. squarrosus*. Burrell, W. H. Pennine Peat. [Naturalist, 1924, p. 148.] Recent

#### **Rhytidiadelphus triqueter (L.) Warnst.**

- 1898 *Hylocomium triquetrum* (L.) Bry. eur. Andersson, Gunnar. Stud. öfver Finlands .... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.] Quaternary  
1905 *Hyl. triquetrum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 33.] Pleistocene  
1911 *Hyl. triquetrum*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831.] Recent. Ice land peat  
1914 *Rhytidiadelphus triqueter*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial  
1918—20 *R. triqueter*. Docturovsky, V. S., and Kudriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Postglacial  
1920 *Hyl. triquetrum*. Reid, E. M. Two preglacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.] Pliocene  
1923 *Hyl. triquetrum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 146, 337.] Quaternary



**Rhytidium (Sull.) Kindb.****Rhytidium rugosum (Ehrh.) Kindb.**

- 1908 *Hylocomium rugosum* (Ehrh.) Bry. eur. Holst. Late glacial  
N. O. Efterskörd från de senglaciala Lagren vid  
Toppeladugård .... [Sver. geol. Undersökning  
Arsbok, II, p. 19.]
- 1910 *Hyl. rugosum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1914 *R. rugosum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

**Hylocomium Bry. eur.****Hylocomium brevirostre (Ehrh.) Bry. eur.**

- 1905 *Hylocomium brevirostre*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas ..... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.] Pleistocene  
Note. This is said to have been determined as *Brachythecium rutabulum* by Uhlmann.
- 1910 *Hyl. brevirostre*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Hist., 1910, p. 105.] Postglacial
- 1923 *Hyl. brevirostre*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 146, 338.] Quaternary

**Hylocomium proliferum (L.) Lindb.**

- 1898 *Hylocomium proliferum*. Andersson, Gunnar. Stud. öfver Finlands .... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.] Quaternary
- 1902 *Hyl. splendens* (Dill.) Bry. eur. Hartz, N. Bidrag til Danmarks senglaciale Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, pp. 11, 15, 18.] Late glacial
- 1903 *Hypnum splendens* Dill. Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone .... [Zeitschr. f. Naturwiss., LXXVI, p. 269.] Diluvial
- 1905 *Hypnum splendens*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 40.] Pleistocene
- 1909 *Hyl. proliferum*. Hartz, N. Bidrag til Danmarks tertiære .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Diluvial
- 1911 *Hyl. splendens*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.] Recent; Ice-land peat
- 1912 *Hyl. splendens*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial
- 1914 *Hyl. splendens*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

- 1922 *Hyl. proliferum*. Jessen, Knud, og Rasmussen, R. Recent  
Et Profil Gennem en Tørvemose paa Faerørne.  
Danmarks geol. Undersøgelse, IV Raekke, No. 13,  
p. 12.]
- 1923 *Hyl. splendens*. Baumberger, E., etc. Die dilu- Quaternary  
vialen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, pp. 146, 286, 338.]
- 1924 *Hyl. splendens*. Burrell, W. H. Pennine Peat. Recent  
[Naturalist, 1924, p. 148.]

### **Hylocomium pyrenaicum (Spr.) Lindb.**

- 1912 *Hylocomium pyrenaicum*. Stark, P. Beitr. zur Glacial  
Kennntn. der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

### **Hylocomium undetermined species.**

- 1909 *Hylocomium* sp. Travis, W. G. Plant remains Peat  
in peat ..... at Aintree. [Trans. Liverpool Bot.  
Soc., I, p. 5.]

## **Hypnum Dill. ex. p.**

### **Hypnum Schreberi Willd.**

- 1898 *Hylocomium parietinum* (L.) Lindb. Andersson, Quaternary  
Gunnar. Stud. öfver Finlands .... Kvartärflora.  
[Bull. de la Commission géol. de Finlande, Tome  
2, No. 8, p. 136.]
- 1900 *Hypnum Schreberi*. Gepp, A. Fossil plant re- Recent; sub-  
mains in peat. [Journ. of Bot., XXXIII, p. 181.] marine peat
- 1902 *Hyl. parietinum*. Hartz, N. Bidrag til Danmarks Late glacial  
senglaciale Flora og Fauna. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 11, p. 11.]
- 1905 *Hyp. Schreberi*. Neuweiler, E. Die prähistor. Pleistocene  
Pflanzenreste Mitteleuropas ..... [Vierteljahr. na-  
turforsch. Ges. Zürich, I, Heft 6, p. 40.]
- 1908 *Hyl. parietinum*. Holst, N. O. Efterskörd från Late glacial  
de senglaciale Lagren vid Toppeladugård ....  
[Sver. geol. Undersökning Arsbok, II, p. 19.]
- 1909 *Hyl. parietinum*. Hartz, N. Bidrag til Danmarks Diluvial  
tertiære ..... Flora. [Danmarks geol. Under-  
søgelse, II Raekke, No. 20, p. 260.]
- 1912 *Hylocomium Schreberi* (Willd.) De Not. Stark, P. Glacial  
Beitr. zur Kennntn. der eiszeitlich. Fl. und Fauna  
Badens. [Ber. naturforsch. Ges. Freiburg i. B.,  
XIX, p. 116.]
- 1914 *Hyp. Schreberi*. Zmuda, A. J. Fossile Flora des Diluvial  
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-  
covie d. sc. math. et nat., Sér. B, No. 2 B,  
p. 249.]
- 1922 *Hyl. parietinum*. Jessen, Knud, og Rasmussen, R. Recent  
Et Profil Gennem en Tørvemose paa Faerørne.  
[Danmarks geol. Undersøgelse, IV Raekke, No. 13,  
p. 12.]
- 1923 *Hyp. Schreberi*. Baumberger, E., etc. Die diluvi- Quaternary  
alen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, pp. 146, 338.]

**Ptilium (Sull.) De Not.****Ptilium crista-castrensis (L.) De Not.**

- 1914 *Ptilium crista-castrensis*. Zmuda, A. J. Fossile Diluvial Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. Sc. math. et nat., Sér. B, No. 2B, p. 249.]

**Stereodon (Brid.) Mitt.****Stereodon arcuatus Lindb.**

- 1907 *Stereodon* cfr. *arcuatus*. Holst, N. O. Preglacial Dryasförende .... nära Ystad. [Geol. Fören. Förh., XXIX, p. 232.] Preglacial
- 1914 *Hypnum Lindbergii* Mitt. Weber, O. A. Die Mammutflora von Boron. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 21.] Glacial

**Stereodon callichrous Brid.**

- 1912 *Hypnum callichroum* (Brid.) C. M. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Lateglacial
- 1912 *H. callichroum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

**Stereodon cupressiformis (L.) Brid.**

- 1900 *Hypnum cupressiforme* L. Gepp, A. Fossil plant-remains in peat. [Journ. of Bot., XXXIII, p. 181.] Recent; sub-marine peat
- 1903 *H. cupressiforme*. Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone .... [Zeitschr. für Naturwiss., LXXXVI, p. 254.] Diluvial
- 1905 *H. cupressiforme*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.] Pleistocene
- 1909 *Stereodon cupressiformis*. Hartz, N. Bidrag til Danmarks terciære .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Diluvial
- 1910 *H. cupressiforme*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial
- 1913 *S. cupressiformis*. Beyle, M. Ueber einige Ablag. .... der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6, Beih., p. 83.] Quaternary
- 1914 *S. cupressiformis*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial
- 1923 *S. cupressiformis*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 336.] Quaternary
- 1923 *S. cupressiformis* var. *filiformis* (Brid.). Baumberger, op. cit., p. 336. Quaternary
- 1924 *H. cupressiforme*. Burrell, W. H. Pennine Peat. [Naturalist, 1924, p. 148.] Peat

**Stereodon fastigiatus** Brid.

- 1912 *Hypnum fastigiatum* (Brid.) Hartm. Dixon, H. N., Late glacial  
in Warren, S. H. A late Glacial stage in the Lea  
Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

**Stereodon fertilis** (Sendtn.) Lindb.

- 1912 *Hypnum fertile* Sendtn. Stark, P. Beitr. zur Glacial  
Kenntniss der eiszeitlich. Fl. und Fauna Badens.  
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

**Stereodon hamulosus** (Bry. eur.) Lindb.

- 1914 *Hypnum hamulosum* Bry. eur. Weber, C. A. Die Glacial  
Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 20.]

**Stereodon pallescens** (Hedw.) Lindb.

- 1912 *Stereodon pallescens*. Stark, P. Beitr. zur Kenntn. Glacial  
der eiszeitlich. Fl. und Fauna Badens. [Ber. natur-  
forsch. Ges. Freiburg i. B., XIX, p. 90.]

**Stereodon pratensis** (Koch) Warnst.

- 1911 *Hypnum pratense* Koch? Dixon, H. N., in Lewis, Recent; Ice-  
F. J. The plant remains in the Scottish peat land peat  
mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII,  
p. 830.]

Note. A single fragment found, probably be-  
longing here.

- 1911 *Hypnum pratense* Koch. Dixon, H. N., op. et loc. Recent; Ice-  
cit. land peat

Note. From a different layer. Either this or  
*S. arcuatus*, probably *S. pratensis*.

- 1914 *H. pratense*. Weber, C. A. Die Mammutflora von Glacial  
Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1,  
p. 21.]

**Stereodon recurvans** (Schwaegr.) Broth.

- 1900 *Hypnum recurvans* Schwaegr. Penhallow, D. P. Pleistocene  
Canadian Pleistocene Flora of the Don Valley.  
[Rep. of 70th Meeting, Brit. Assoc., Bradford.  
Part II, p. 335.]

- 1920 *Sematophyllum recurvans* (Schwaegr.) E. G. Britt. Pleistocene  
Baker, Frank C. The life of the Pleistocene or  
glacial period. [Univ. of Illinois Bull., XVII,  
pp. 334, 335, 377.]

**Stereodon reptilis** (Rich.) Mitt.

- 1907 *Hypnum reptile* (Rich.)? Hartmann, F. Die Fossile Diluvial  
Flora von Ingramsdorf, p. 14.

- 1912 *H. reptile*. Stark, P. Beitr. zur Kenntn. der eis- Glacial  
zeitlich. Fl. und Fauna Badens. [Ber. natur-  
forsch. Ges. Freiburg i. B., XIX, p. 90.]

**Stereodon revolutus** Mitt.

- 1910 *Stereodon revolutus*. Hesselbo, A. Mosrester fra Diluvial Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

**Stereodon Vaucheri** (Lesq.) Lindb.

- 1912 *Hypnum Vaucheri* Lesq. Dixon, H. N., in Warren, Lateglacial S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

**Isopterygium** Mitt.**Isopterygium pulchellum** (Dicks.) Jaeg.

- 1912 *Plagiothecium pulchellum* (Dicks.) Bry. eur. Stark, Glacial P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

**Plagiothecium** Bry. eur.**Plagiothecium latebricola** (Wils.) Bry. eur.

- 1912 *Plagiothecium latebricola*. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

**Plagiothecium Roeseanum** (Hamp.) Bry. eur.

- 1920 *Plagiothecium denticulatum* (L.) Roeseanum (Hamp.) Pleistocene Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 126, 184, 377.]

**Plagiothecium Ruthei** Limpr.

- 1912 *Plagiothecium Ruthei* var. *rupicola* Limpr. Stark, Glacial P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

**Plagiothecium silvaticum** (Huds.) Bry. eur.

- 1914 *Plagiothecium silvaticum*. Zmuda, A. J. Fossile Diluvial Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.]

**Plagiothecium striatellum** (Brid.) Lindb.

- 1912 *Plagiothecium Muehlenbeckii* (Schimp.) Bry. eur. Glacial Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

**Plagiothecium undulatum** (L.) Bry. eur.

- 1910 *Plagiothecium undulatum*. Dixon, H. N. Some Postglacial "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

**Brachytheciaceae.****Homalothecium** Bry. eur.**Homalothecium sericeum** (L.) Bry. eur.

- 1909 *Hypnum sericeum* L. Hartz, N. Bidrag til Danmarks tertiære .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Diluvial
- 1914 *Homalothecium sericeum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial
- 1915 *Hom. sericeum*. Reid, Clement and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.] Pliocene
- 1918—20 *Hom. sericeum*. Docturowsky, V. S., and Kudriashev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Postglacial
- 1923 *Hom. sericeum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

**Camptothecium** Bry. eur.**Camptothecium nitens** (Schreb.) Schimp.

- 1899 *Camptothecium nitens*. Weber, C. in Koert, W., Interglacial and Weber. Ueber ein neues interglaciales Torflager. [Jahrb. der Kgl. preuss. geol. Landesanstalt für 1899, pp. 190, 191.] Interglacial
- 1900 *C. nitens*. Dixon, H. N. Plant-remains in peat. [Journ. of Bot., XXXIII, p. 216.] Peat
- 1903 *Hypnum trichoides* Neck. Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone .... [Zeitschr. f. Naturwiss., LXXXVI, p. 269.] Diluvial
- 1904 *C. nitens*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1904 *C. nitens*. Geinitz, E., und Weber, C. A. Ueber ein Moostorflager ... der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.] Postglacial
- 1907 *C. nitens*. Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.] Peat
- 1908 *C. nitens*. Weber, C. A. Die Moostorfschichten ... zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, p. 43.] Pleistocene
- 1908 *Hypnum trichoides*. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård..... [Sver. geol. Undersökning Arsbok, II, No. 2, p. 19.] Late glacial

- 1909 *C. nitens*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, 1, p. 58.] Schieferkohlen
- 1910 *H. trichoides*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial
- 1912 *C. nitens*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Lateglacial
- 1912 *C. nitens*. Stark, P. Beitr. zur Kenntn. der eiszzeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial
- 1914 *C. nitens*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 2, p. 18.] Glacial
- 1914 *Tomenthypnum nitens* (Schreb.) Loeske. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 247.] Diluvial
- 1917 *C. nitens*. Rudolph, K. Untersuch. über den Aufbau böhmischer Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 82.] Pleistocene
- 1918 *C. nitens*. Beyle, M. Ueber einige Ablag. fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst., XXXVI, p. 40.] Glacial
- 1920 *C. nitens*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 228, 241, 377.] Pleistocene
- 1923 *C. nitens*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335.] Quaternary

### **Camptothecium lutescens** (Huds.) Bry. eur.

- 1905 *Camptothecium lutescens*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr.-naturforsch. Ges. Zürich, L, Heft 6, pp. 37, 40.] Pleistocene
- 1909 *Hypnum lutescens* Huds. Hartz, N. Bidrag til Danmarks tertiaere ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1923 *C. lutescens*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

### **Camptothecium Woldenii** Grout.

- 1917 *C. Woldenii* Grout, A. J. A Fossil Camptothecium. [Bryologist, XX, p. 9, t. I.] Kansan Drift
- Note. Grout states that this is nearest to *C. pinnatifidum* and *C. aureum*, but differs clearly from both.

### **Brachythecium** Bry. eur.

#### **Brachythecium albicans** (Neck.) Bry. eur.

- 1898 *Hypnum* near *albicans* Neck. Andersson, Gunnar. Quaternary Stud. öfver Finlands .... Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.]

- 1910 *H. albicans* Neck. Hesselbo, A. Mosrester fra Diluvial  
Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

**Brachythecium glareosum** (Bruch) Bry. eur.

- 1904 *Brachythecium glareosum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). Late glacial  
[Quart. Journ. Geol. Soc., LX, p. 124.]

**Brachythecium Mildeanum** (Schimp.) Schimp.

- 1912 *Brachythecium Mildeanum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. Late glacial  
[Quart. Journ. Geol. Soc., LXVIII, p. 231.]

**Brachythecium plumosum** (Sw.) Bry. eur.

- 1889 *Brachythecium plumosum*. Candler, Chas. Observations on some .... Deposits at Saint Cross .... in Suffolk. [Quart. Journ. Geol. Soc., XLV, p. 507.] Lacustrine
- 1910 *B. plumosum*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial
- 1910 *B. plumosum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

**Brachythecium reflexum** (Stark) Bry. eur.

- 1912 *Brachythecium reflexum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. Glacial  
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

**Brachythecium rivulare** (Bruch) Bry. eur.

- 1923 *Brachythecium* cfr. *rivulare*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335.] Quaternary

**Brachythecium rutabulum** (L.) Bry. eur.

- 1888 *Brachythecium rutabulum*. Reid. Clement, and Ridley, H. N. Fossil Arctic Plants from .... Hoxne, in Suffolk. Geol. Mag., Decade III, Vol. V, p. 444.] Late glacial
- 1904 *B. rutabulum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
- 1905 *B. rutabulum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 40.] Pleistocene
- 1909 *Hypnum rutabulum* L. Hartz, N. Bidrag til Danmarks tertiære .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *B. rutabulum*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial



**Brachythecium salebrosum** (Hoffm.) Bry. eur.

- 1909 *Hypnum salebrosum* Hoffm. Hartz, N. Bidrag til Inter-  
glacial Danmarks tertiaere .... Flora. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 20, p. 261.]

**Brachythecium turgidum** (Hartm.) Hartm. f.

- 1914 *B. turgidum*. Zmuda, A. J. Fossile Flora des Diluvial  
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-  
covie d. sc. math. et nat., Sér. B, No. 2 B,  
p. 249.]

**Brachythecium velutinum** (L.) Bry. eur.

- 1909 *Hypnum velutinum* L. Hartz, N. Bidrag til Dan-  
marks tertiaere .... Flora. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 20, p. 261.] Inter-  
glacial
- 1914 *Brachythecium velutinum*. Zmuda, A. J. Fossile Diluvial  
Flora des Krakauer Diluviums. [Bull. int. Acad.  
Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B,  
p. 249.]

**Brachythecium** undetermined species.

- 1920 *Brachythecium* sp. Reid, E. M. Two preglacial Pliocene  
Floras of Castle Eden. [Quart. Journ. Geol. Soc.,  
LXXVI, p. 111.]
- 1922 *Brachythecium* sp. Jessen, Knud, og Rasmussen, R. Recent  
Et Profil Gennem en Tørvemose paa Faerørne.  
[Danmarks geol. Undersøgelse, IV Raekke, No. 13,  
p. 12.]
- 1923 *Brachythecium* sp. Baumberger, E., etc. Die di- Quaternary  
luvialen Schieferkohlen der Schweiz. [Beitr. Geol.  
Schweiz, geotechn. Ser., Lief. 8, p. 521.]
- 1925 *Brachythecium* sp. Dixon, H. N. Moss Remains Inter-  
glacial in Russian Peat. [Journ. of Bot. LXIII, p. 370.]
- 1925 *Brachythecium* sp. Weyland, H. Beitr. zur Kenntn. Upper  
fossiler Moose. 1. [Senckenbergiana, VII, Heft Pliocene  
1/2, p. 52, t. III.]

**Scleropodium** Bry. eur.**Scleropodium purum** (L.) Limpr.

- 1909 *Hypnum purum* L. Hartz, N. Bidrag til Dan- Inter-  
marks tertiaere .... Flora. [Danmarks geol. Un-  
dersøgelse, II Raekke, No. 20, p. 261.] glacial
- 1909 *H. purum*. Schuster, J. Paläobot. Not. aus Bay- Schiefer-  
ern. [Ber. bayer. bot. Ges., XII, 1, p. 58.] kohlen
- 1911 *H. purum*. Stoller, J. Die Flora der jungglazialen Early  
Ablag. Ostpreussens. [Jahrb. d. Kgl. preuss. geol. glacial  
Landesanstalt, XXXI, t. II, Heft 1, p. 123.]

**Scorpiurium** Schimp.**Scorpiurium deflexifolium** (Solms) Schimp.

- 1923 *Eurhynchium circinatum* (Brid.) var. *deflexifolium*  
(Solms) Boul. Douin, R. Les mousses .... fossiles

des tufs du Lautaret. [Rev. Génér. de Bot., XXXV, p. 121.]

## Cirriphyllum Grout.

### Cirriphyllum cirrosum (Schwaegr.) Grout.

- 1910 *Hypnum cirrosum* Schwaegr. Hesselbo, A. Mos- Diluvial  
rester fra Diluviet ved Skaerumhede. [Danmarks  
geol. Undersøgelse, II Række, No. 25, p. 108.]

### Cirriphyllum Vaucheri (Bry. eur. ex p.) Loeske & Fleisch.

- 1925 *Eurhynchium* sp.? *Tommasinii* (Sendtn.) Ruthe. Upper  
Weyland, H. Beitr. zur Kenntn. fossiler Moose. I. Pliocene.  
[Senckenbergiana, VII, Heft 1/2, p. 52, t. III.]  
Note. This is the plant recorded as *Eurhynchium*  
*sp.* by Engelhardt & Kinkelin, Oberpliocäne  
Flora ..... des Frankfurter Klärbeckens, in Abh.  
Senckenb. naturforsch. Ges., XXIX, p. 188, t.  
XXII, figs. 9—13. The figures there show an  
entire leaf, apparently nerveless, very concave,  
and with recurved margins; and strongly suggest  
*Plagiothecium piliferum*. Weyland however who has  
examined the specimens figures and describes the  
piliform acumen as clearly toothed, and states  
that the margin is frequently incurved; the nerve  
is stated by him to be not present in the upper  
part of the leaf, while the lower part of the leaf  
does not permit of observation. He considers it  
may be *C. Tommasinii* (*Vaucheri*) or possibly  
*C. cirrosum*.

## Oxyrrhynchium Warnst.

### Oxyrrhynchium praelongum (Bry. eur.) Warnst.

- [Note. There is considerable confusion about  
this and *Eurhynchium Stokesii*. The plant described  
as *Eurh. praelongum* (L.) in the Bry. eur. is not  
*Hypnum praelongum* L., which is the plant usually  
known as *Eurh. Stokesii*. It is therefore not al-  
ways clear to which of these two plants a record  
of "*H. praelongum*" or "*Eurh. praelongum*" refers.]
- 1904 *Eurhynchium Swartzii* (Turn.) Hobk. Bell, A. M. Late glacial  
Implementiferous Sections at Wolvercote (Ox-  
fordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]
- 1905 *Eurhynchium praelongum* Bry. eur. Neuweiler, E. Pleistocene  
Die prähistor. Pflanzenreste Mitteleuropas .....  
[Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6,  
p. 38.]
- 1912 *E. praelongum*. Stark, P. Beitr. zur Kenntn. der Glacial  
eiszzeitlich. Fl. und Fauna Badens. [Ber. natur-  
forsch. Ges. Freiburg i. B., XIX, p. 116.]
- 1913 *E. praelongum*. Beyle, M. Ueber eine Ablag. Pleistocene  
fossiler Pflanzen der Hamburger Gegend. [Jahrb.  
Hamburg. wiss. Anstalt, XXX, 6, Beih., p. 83.]
- 1918—20 *O. praelongum*. Docturowsky, V. S., and Ku- Postglacial  
drashev, V. Results of Russian studies on peat  
moors. [Reports on Peat, 4.]

- 1920 *E. Swartzii* (Turn.) Hobk. Reid, E. M. Two pre-glacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.] Pliocene
- 1922 *E. praelongum*. Jessen, Knud, og Rasmussen, R. Recent  
Et Profil Gennem en Tørvemose paa Faerøerne.  
[Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]
- 1923 *E. praelongum*. Baumberger, E. etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 335.] Quaternary

### ***Oxyrrhynchium rusciforme* (Neck.) Warnst.**

- 1910 *Eurhynchium rusciforme* (Neck.) Milde. Dixon, H. Postglacial  
N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

### ***Oxyrrhynchium speciosum* (Brid.) Warnst.**

- 1904 *Eurhynchium speciosum* (Brid.) Milde. Bell, A. M. Lateglacial  
Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]
- 1915 *E. speciosum*. Reid, Clement and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.] Pliocene

### ***Oxyrrhynchium Swartzii* (Turn.) Warnst.**

- 1909 *Hypnum Swartzii* Turn. Hartz, N. Bidrag til Danmarks tertiaere .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1919 *Eurhynchium Swartzii* (Turn.) Bry. eur. Gadeceau, E. Les Forêts submergées de Belle-Ile-en-mer. [Bull. Biol. de la France, etc., LIII, p. 295.] Postglacial
- 1923 *E. Swartzii*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 335.] Quaternary

### ***Eurhynchium* Bry. eur.**

#### ***Eurhynchium Stokesii* (Turn.) Bry. eur.**

- 1909 *Hypnum praelongum* L. Hartz, N. Bidrag til Danmarks tertiaere ..... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *Eurhynchium praelongum* (L.) Hobk. Dixon, H. Postglacial  
N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]
- 1920 *E. praelongum*. Reid, E. M. Two preglacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.] Pliocene
- 1922 *E. Stokesii* (*Stokesii*, false). Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerøerne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent

#### ***Eurhynchium striatulum* (Spr.) Bry. eur.**

- 1912 *Eurhynchium* cfr. *striatulum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens.

- [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]
- 1923 *E. striatulum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 335.] Quaternary
- 1923 *E. striatulum* var. *integrifolium*. Baumberger, op. et loc. cit. Quaternary

### ***Eurhynchium striatum* (Schreb.) Schimp.**

- 1905 *Eurhynchium striatum*. Neuweiler, E. Die prä-histor. Pflanzenreste Mitteleuropas .... [Vierteljahr. naturforsch. Ges. Zürich, I, Heft 6, p. 38.] Pleistocene
- 1909 *Hypnum striatum* Schreb. Hartz, N. Bidrag til Danmarks tertiære .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
- 1910 *E. striatum*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial
- 1911 *H. striatum*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. [Jahrb. Kgl. preuss. geol. Landesanstalt, XXXII, Teil 1, Heft 1, p. 135.] Diluvial

### ***Eurhynchium strigosum* (Hoffm.) Bry. eur.**

- 1909 *Hypnum strigosum* Hoffm. Hartz, N. Bidrag til Danmarks tertiære .... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial

### ***Eurhynchium* spec. Eng. et Kink.**

cf. *Cirriphyllum Vaucheri* Loeske et Fl.

### ***Rhynchostegium* Bry. eur.**

#### ***Rhynchostegium Knowltoni* E. G. Britt.**

- 1899 *Rhynchostegium Knowltoni* E. G. Britt. A new Tertiary fossil Moss, in Bull. Torr. Bot. Club, XXVI, p. 79, with text figure (repeated op. cit., XXXIV, (1907), t. 9, fig. 5). Miocene or Upper Eocene

### ***Hypnodendron* (C. M.) Lindb.**

- 1922 *Hypnodendron arborescens* (Mitt.) Lindb., or *H. Reinwardtii* (Hornsch.) Lindb. Dixon, H. N. Note on a moss in amber. [Journ. of Bot., LX, p. 149, with text-figure.] Lower Miocene Amber, Burma

Note. The fragment of branch might very well belong to either of the above species. *H. arborescens* is known from the Malay Peninsula, but *H. Reinwardtii* has not been recorded from continental Asia.

### **Excluded and doubtful genera and species.**

#### ***Cryptothecium antediluvianum* Hueb.**

*Cryptothecium antediluvianum* nov. gen. & sp. Tertiary Huebener MS. in Weber, C. O. Die Tertiärflora der niederrhein. Braunkohlenformationen, in Palaeontographica, II, p. 228 (1852).

This is stated by Schimper to be a species of *Sphagnum*.

**Hypnites haeringianus** Ett.

*Hypnites haeringianus* nov. gen. & sp. Ettingshausen, C. von. Die Tertiärflora von Haering, in Abh. d. geol. Reichsanstalt, Wien, II, p. 27, t. IV (1852).

Syn. *Hypnum haeringianum* Schimp., Traité de Pal. Végét., I, p. 249. Schimper considers this to belong to the *Hypna adunca*.

Tertiary;  
schiste calcaire bitumineux

**Hypnum armissanense** Schimp. cf. *Muscites pulvinatus*.**Hypnum Brownii** Kirchner.

- 1898 *Hypnum Brownii* Kirchner, C. G. Walter. Contrib. to the fossil flora of Florissant, Colorado. [Trans. Acad. Sci. St. Louis, VIII, p. 178, t. XII.]  
cfr. also Knowlton, F. H. A review of the fossil plants in the U. S. Nat. Mus. .... in Proc. U. S. Nat. Mus., LI (1916), p. 245. See also Britton & Hollick, Bull. Torr. Bot. Club, XXXIV, p. 139—140, t. IX. The author compares it with *Brachythecium populeum*, but the figures do not suggest that, the leaves being broader and shorter. "Brachythecoid" seems as near as it seems safe to go.

Tertiary

**Hypnum carbonarium** Ludw.

- 1859 *Hypnum carbonarium* Ludwig, R. Fossile Pflanzen aus ..... der Rheinisch-Wetterauer-Tertiär-Formation. [Palaeontographica, VIII, p. 62, t. IX and XXIV.]

The figures rather suggest a *Fontinalis*. Schimper thinks a *Hypnum* (Traité de Pal. Végét., I, p. 248).

Tertiary  
Lignites of  
Salzhausen

**Hypnum columbianum** Penhallow.

- 1890 *Hypnum columbianum* Penhallow, D. P., in Dawson, Sir Wm., Trans. Roy. Soc. Canada, VIII, Pt. 4, p. 77, fig. 3.

Britton and Hollick, Bull. Torr. Bot. Club, XXXIV, p. 140, t. IX, fig. 4, consider this to be a conifer, near to *Widdringtonia helvetica* Heer, or *Glyptostrobus Ungerii* Heer.

Lower Tertiary

**Hypnum Haydenii** Lesq.

- 1878 *Hypnum Haydenii* Lesq. in Hayden, F. V. Tertiary Flora of U. S. [Rep. of U. S. A. Geol. Survey, VII, p. 44].

Cockerell, T. D. A. [A Redwood described as a Moss, Torreya, VII, p. 203 (1907),] shows this to be a conifer, *Sequoia Haydenii* (Lesq.) Cock.

Tertiary

**Hypnum Heerii** Schimp.

- 1855—59 *Hypnum Schimperii* Heer. Flora tertiaria Helvetiae, I, p. 28, t. III (nec *H. Schimperianum*)  
Fossilium Catalogus II. 13.

Tertiary

Lor. 1864; nec *H. Schimperii* (Ung.) Schimp.)

Schimper (Traité de Pal. Végét., I, p. 247) alters the name to *H. Heerii*, in view of the earlier *H. Schimperianum* and *Muscites Schimperii* Ung. He compares it with *Amblystegium serpens*, but the resemblance cannot be very close; the leaves being longer and narrower, with an apparently percurrent nerve.

### **Hypnum Heppii Heer.**

1855—59 *Hypnum Heppii* Heer. Fl. tertiaria Helvetiae, I, p. 28, t. III. Tertiary

Syn. *Hygroamblystegium Heppii* (Heer) Broth. in Engler, Die Natürlich. Pflanzenfam., Musci, II, p. 523 (1925).

Schimper figures this, Traité de Pal. Végét., t. VI, figs. 20, 21 (not 17, 18, 19, as in the text). He considers it to be nearest to *Amblystegium irriguum* var. *fallax*, but the leaves are, as he says, too narrow. It suggests to me a *Drepanocladus*, of the *fluitans* group, but the acumen is perhaps too broad, and the dimensions rather small.

### **Hypnum Mastodontum Boul.**

1892 *Hypnum Mastodontum*. Boul, N., Flore pliocène du Mont-Dore, p. 45, f. 9. Pliocene

Boulay suggests *Amblystegium riparium* as the nearest affinity, but agrees that it cannot be that. The upper cells are shortly linear; no distinct alar cells visible.

1903 *Hypnum* cfr. *Mastodontum* Boul. Marty, P. Flore Miocene Miocène de Joursac. Rev. Haute Auvergne, 1903, p. 18, t. I, figs. 7—10].

This does not appear to have been critically examined. All one can say is that it is a pleurocarpous moss, with lanceolate, single-nerved leaves.

### **Hypnum plumula Schimp.**

1869 *Hypnum plumula* Schimp., Traité de Pal. Végét., I, p. 248. Etage tertiaire, près d'Allauch

According to Schimper this is "une forme exotique", not allied to any European moss. It is not figured.

### **Hypnum priscum Schimp.**

1865 *Hypnum priscum* Schimp. in Heer, O. Die Umwelt der Schweiz, 1. Aufl., p. 497. Quaternary lignites of Dürnten, Switzerland

Schimper says this is very close to *Calliergon sarmetosum*. Gams, in Vierteljahrsschr. naturforsch. Ges. Zürich, LXIII, p. 28 (1913) states that according to Meylan it is between *Calliergon giganteum* and *Scorpidium scorpioides*.

**Hypnum Saprostanum** Schimp. cfr. *Muscites setosus*.**Hypnum Schimperi** (Ung.) Schimp.

- 1869 *Hypnum Schimperi* (Ung.) Schimp. *Traité de Pal. Vét.*, 1, p. 246. *Muscites Schimperi* Ung. *Genera et Spec. Plant. Fossil.*, p. 42 (1850); and *Iconograph. plant. fossil.*, in *Denkschr. d. k. k. Akad. d. Wissensch.*, Wien, 1852, p. 10, t. IV; and p. 82, t. XXVII, Figs. 1, 2.

Schiste  
calcaire  
argileux de  
Paschlug

Unger compares it with *Campylium stellatum* ("admodum convenit"). Ettingshausen, in *Denkschr. d. k. k. Akad. d. Wissensch.*, Wien, XXXVIII, Abth. 1, figures on t. V, figs. 7—9 a separate capsule, associated with the vegetative fragments. I have examined the specimen on which this is based, in the Geol. Dept. of the British Museum (No. 592). It may be the impression of a moss capsule, but if so it is much more like *Catoscopium* than *Hypnum*!

Schimper considers it of doubtful affinity.

**Hypnum Schimperi** Heer. cfr. *Hypnum Heerii*.**Hypnum Taramellianum** Farneti.

- 1896 *Hyp. Taramellianum* Farn. *Ricerche di briol. palaeont. .... al periodo glaciale*. [Atti dell Istit. Bot. della Reale Univ. di Pavia, Ser. II, vol. V, p. 56, t. IV] cf. also Schilbersky, K. *Ein Laubm. aus dem Pleistocän von Kecskemét* [Math. Termstud. Ertesitö, XXX (1912) p. 632] text and figures. The author says it recalls *Scleropodium purum*, *Drepanocladus turgescens*, *Acrocladium euspidatum*, etc., and does not venture to place it. The figure looks to me more like a *Hygrohypnum* (e. g. *H. molle* or *H. dilatatum*) than any of the above.

Pleistocene

**Hypnum Ungerii** Schimp.

- 1869 *Hyp. Ungerii* Schimp. *Traité de Pal. Végét.*, I, p. 247. *Muscites hypnoides* Ung. *Iconograph. plant. fossil.*, in *Denkschr. d. k. k. Akad. d. Wissenschaft.*, Wien, 1852, p. 11, t. IV.

Schiste  
calcaire  
marneux de  
Radoboj

Probably, according to Schimper, a submerged or floating form of a riparian moss.

**Hypnum viride**.

- 1909 *Hypnum viride*. Hartz, N. *Bidrag til Danmarks tertialære .... Flora*. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

Interglacial

This may refer either to *H. viride* Lam. (*Brachythecium populeum*), or to *H. viride* Schleich. (*Amblystegium serpens*).

### **Hypnum Weberianum Schimp.**

- 1856 **Hypnum Weberianum Schimp.**, *Traité de Pal. Végét.*, I, p. 249. Tertiary

Hyp. lycopodioides Weber, C. O. in Wessel & Weber, *Neuer Beitrag zur Tertiärflora der niederrhein. Braunkohlformation*. [*Palaeontographica*, IV, p. 126, t. XXX, f. 12] (nec *H. lycopodioides* Brid.).

Schimper compares it to *Brachythecium salebrosum* or *Antitrichia curtispindula*, but with leaves narrowly linear-lanceolate. He does not suggest any closer affinity. The figure shows a well preserved moss with regularly plumose stems; it suggests to me an aquatic *Drepanocladus*, e. g. a *fluitans* form, rather than either of the above plants. The name was given by Weber in reference to a supposed resemblance to certain Lycopods, and has no connection with *Drepanocladus lycopodioides* (Brid.). The name was altered by Schimper to *H. Weberianum*, rather unfortunately, in view of *H. Weberianum* Goepp., which latter Schimper referred to *Drepanocladus Sendtneri*.

### **Hypnum Spp.**

- 1892 **Hypnum sp.** Boulay, N. Flore pliocène du Mont Dore, p. 45. Pliocene  
The author compares with *Hygrohypnum filicinum* and *Cratoneuron commutatum*.
- 1900 **Hypnum sp.** Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley. [Rep. of Brit. Assoc., 1900, Bradford. Pt. II, p. 336.] Pleistocene
- 1903 **Hypnum sp.** Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone ..... [Zeitschr. f. Naturwiss., LXXXVI, p. 191 bis]. Diluvial
- 1903 **Hypnum sp.** Range, Paul, op. cit., p. 257. Diluvial
- 1905 **Hypnum sp.** Neuweiler, E. Zur Interglazialflora der schweizerisch. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 94]. Interglacial  
The author comments "entspricht dem *H. sarmentosum* und *trifarium*".
- 1907 **Hypnum sp.** Hartmann, F. Die fossile Flora von Ingramsdorf, p. 14. Diluvial
- 1908 **Hypnum sp.** Dixon, H. N., in Lewis, F. J. The Plant Remains in the Scottish Peat Mosses. Part III. [Trans. Roy. Soc. Edinb., XLVI, p. 40.] Recent Scottish Peat
- 1920 **Hypnum sp.** Baker, Frank, C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 27, 87, 101, 329.] Pleistocene
- 1923 **Hypnum sp.** Douin, R. Les mousses ..... fossiles des tufs du Lautaret. Rev. Gén. Bot., XXXV, p. 120.]

### **Lycopodites Meekii Lesq.**

*Lycopodites Meekii* Lesq. It has been suggested by Solms-Laubach (*Fossil Botany*, p. 186, 1891) that this fossil, figured by Lesquereux



in 2nd Geol. Surv. Penn., Rep. of Progress P. Harrisburg, 1879, t. LXII, f. 1, may be a moss. Seward however shows that this is untenable, and remarks that it resembles closely *Selaginella Oregana*. It has no real claim to be considered a Bryophyte.

## Muscites

*Muscites* Brongn., Hist. des Végétaux Fossiles, p. 93 (1828).

The diagnosis is preceded by a note that the author designated under this genus such fossil mosses as could not be determined as belonging to any living genus.

### *Muscites apiculatus* Goepp. & Ber.

1845 *Muscites apiculatus* Goepp. & Ber. Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 111, t. VI, fig. 32. Amber

Syn. *Barbula subcanescens* Goepp. & Ber. in Goeppert, H. R. Ueber die Bernsteinflora, p. 458.

Schimper, Traité de Pal. Végét., I, p. 243, says of this "plus que problématique". Caspary (Flora d. Bernsteins, in Abh. Kgl. preuss. geol. Landesanstalt, N. F., Heft 4,) says of this that it "ist auch kein Moos".

Schimper adds that it can in no case belong to *Barbula*, and says that a single leaf suggests a floral leaf from *Polytrichum*. This appears to me by no means impossible; cfr. Goeppert & Berendt's fig. 32 with the ♂ bract e. g. of *Pol. gracile* (Bry. eur., t. 421, fig. 7), or of *P. juniperinum* (ibid., t. 423, fig. 10).

### *Muscites Bertrandii* Lignier.

1914 *Muscites Bertrandii* Lignier, V. Sur une mousse houillère à structure conservée. [Bull. Soc. Linn. Normandie, 6 Sér., VII, p. 128.] Palaeozoic; Stephanien; silex de Grand Croix

This is described as showing a partial transverse section of a stem, exhibiting parenchymatous tissue, the unistratose outermost layer with thickened walls, and rhizoids with oblique partitions. The evidence for its belonging to the Bryophytes seems rather slight, though I am not aware of any other suggestion having been made for it; and the figure certainly indicates a moss stem.

### *Muscites confertus* Goepp. et Ber.

cfr. *Weisia conferta* Schimp.

### *Muscites dubius* Goepp. & Ber.

1845 *Muscites dubius* Goepp. & Ber. Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 112, t. VI, figs. 25, 26; and Goeppert, Ueber die Bernsteinflora, p. 459. Amber

Schimper in the Traité de Pal. Végét. makes no reference to this; from the figure 1 should

feel doubtful if it is a moss; possibly plumose feathers of a bird, or pappus hairs of a higher plant.

### **Muscites elatinus** Sap.

cf. *Thuidium elatinum* (Sap.) Schimp.

### **Muscites elegans** Goepf.

- 1853 **Muscites elegans** Goepf. Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 459.] Amber

Of doubtful affinity. Goepfert says of it "Ein höchst zierliches, 3 Linien langes Pflänzchen, ähnlich manchen *Mnium* Arten hinsichtlich der Insertion der fast gestielten, etwas  $\frac{1}{2}$  Lin. langen Blättchen."

Schimper (Traité de Pal. Végét., I, p. 244) suggests that it may be a small Hookeriaceous moss.

### **Muscites fontinaloides** Ung.

- 1852 **Muscites fontinaloides** Unger. Iconograph. plant. fossil. [Denkschr. d. k. k. Akad. d. Wissensch., Wien, 1852, p. 82, t. XXVII, figs. 3, 4.] In schisto margaceo ad Parschlug Stiriae

Schimper makes no reference to this. From the figure it must, I think, if a moss at all, which seems probable, almost certainly be a *Fontinalis*.

### **Muscites Hauchecornei** Casp. & Klebs.

- 1906 **Muscites Hauchecornei** Caspary & Klebs, in Caspary, Flora d. Bernsteins. [Abh. Kgl. preuss. geol. Landesanstalt, N. F., Heft 4, p. 56, t. VIII, fig. 48.] Amber

Syn. *Muscites serratus* Goepf. in sched., non *M. serratus* Goepf. & Ber.

Caspary can suggest no relationship. The figures strongly suggest a *Mnium* or *Mnioid* moss (cfr. *M. antiquorum* Card. & Dix.); the cells are described as isodiametric and irregular, —.0085 —.0414 mm. (? .014.)

### **Muscites hirsutissimus** Goepf. & Ber.

- 1845 **Muscites hirsutissimus** Goepf. & Ber. Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 112, t. VI, figs. 23, 24; and Goepf. Ueber die Bernsteinflora, p. 459. Amber

Schimper (Traité de Pal. Végét., I, p. 245) says of this that it is evidently a phanerogamous plant.

### **Muscites hypnoides** Ung.

cf. *Hypnum Ungerii* Schimp.

### **Muscites intricatus** Sap.

- 1863 **Muscites intricatus** Saporta. Etudes sur la végétation du Sud-Est de la France. [Ann. des Sc. nat. Par., 4<sup>e</sup> sér., XIX, p. 30].

Saporta compares this with *Philonotis fontana*. The position must be considered extremely doubtful.

### **Muscites joursacensis** Marty.

- 1903 **Muscites joursacensis** Marty, P. Flore miocène de Joursac. [Rev. Haute Auvergne, 1903, p. 18, t. I, figs. 4—6.] Miocene

Marty says that it suggests a *Fissidens* or *Conomitrium*; but this from the branching is quite out of the question. The thickness of the stem as shown in the enlarged fig. 5 appears to me to preclude a moss altogether, and I am inclined to think it more likely a phanerogam.

### **Muscites oeningensis** Braun

cf. *Thuidium oeningense* (Braun) Schimp.

### **Muscites pereger** Sap.

- 1862 **Muscites pereger** Saporta, Etudes sur la végétation du Sud-Est de la France. [Ann. des Sc. nat. Par., 4<sup>e</sup> sér., XVII, p. 207.] Gypse d'Aix

Schimper makes no reference to this. Saporta compares it at once with *Polytrichum commune* and *Dicranum scoparium*!

### **Muscites polytrichaceus** Ren. & Zeill.

- 1885 **Muscites polytrichaceus** Renault, B. & Zeiller, R. Sur des Mousses de l'époque houillère. [Compt. Rend. Acad. Sci. Paris, C, p. 660]. Also in Ren. & Zeill., Flore Fossile .... de Commen-  
try Palaeozoic, Stéphanien de Commen-try

Described and figured by Jongmans, in Med. van de Rijksopspor. van Delfstoffen, No. 3, p. 11. Supposed to be an Acrocarpous moss. Numerous stems with clearly defined, uninerved leaves, "alternate", e descr., and so figured. The texture and size seemed to leave no doubt of its being a moss. It is compared with *Rhizogonium* and *Polytrichum*; it has certainly nothing to do with the latter, and very doubtfully with the former.

It is figured also by Seward, Fossil Plants, vol. I, p. 239, fig. 51.

### **Muscites pulvinatus** Sap.

- 1865 **Muscites pulvinatus** Saporta, Etudes sur la végétation du Sud-Est de la France. [Ann. des Sc. nat. Par., 5<sup>e</sup> sér., IV, p. 32, t. I, f. 3.] Tertiary lig-  
nites of Armissan

*Hypnum armissanense* Schimp., Traité de Pal. Végét., I, 248. Schimper compares it with *Eurhynchium Stokesii*.

**Muscites redivivus Sap.**

- 1862 *Muscites redivivus* Saporta, op. cit., 4<sup>e</sup> sér., XVII, p. 207, t. II, f. 2.

A Hypnaceous moss of doubtful affinity. According to Schimper the figure recalls somewhat *Eurhynchium Teesdalei*, but he considers it impossible to determine the genus.

Schistes  
marneux  
dans les  
gypses  
d'Aix

**Muscites Schimper Ung.**

cf. *Hypnum Schimper* (Ung.) Schimp.

**Muscites serratus Goepp. & Ber.**

- 1845 *Muscites serratus* Goeppert & Berendt, Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 111, t. VI, figs. 27, 28. Also Goeppert, Ueber die Bernsteinflora, p. 459.

Schimper, Traité de Pal. Végét., I, 250, suggests an affinity with the exotic genus, *Trichosteleum*, e. g. *T. Boschii* (Doz. & Molk.) This affinity is based solely on the ground of the appearance of papillae on the cells of the enlarged figure 28, — "les feuilles à bord denté auraient le dos couvert d'aspérités spiniformes". He adds that he thinks the figure inexact, the asperities being probably papillae, and being associated with rhomboidal cells, lax, and without a median nerve, they are distinct from all European species with papillose cells.

A careful examination of this figure, however, reveals no such asperities. What Schimper no doubt took for these are, I have no doubt, simply the marginal denticulations drawn so as to appear dorsal in one of the leaves. Moreover the plant from its size could not possibly have had leaves large enough for *Trichosteleum* or the allied genera; fig. 27, of a branch apex, containing about 20 leaves, is less than 1.5 mm. in length! Schimper's own suggestion of a *Fabronia* is without doubt the correct one; the size, the areolation, and the long and fine denticulations of the leaf, agree exactly with species of this genus, e. g. *F. octoblepharis* Schleich.; and fig. 28 might well have been enlarged slightly from the plate in Bry. eur., Tab. 451, of this species.

**Muscites setosus Sap.**

- 1895 *Muscites setosus* Saporta, Etudes sur la végétation du Sud-Est de la France. [Ann. des sci. nat. Paris, 5<sup>e</sup> Série, IV, p. 30, t. I, f. 1].

*Hypnum Saportanum* Schimp., Traité de Pal. Végét., I, p. 247.

Tertiary  
lignites of  
Armissan

**Muscites squamatus** Brongn.

1828—1844 *Muscites* ?*squamatus* Brongn. Ad. Hist. des végétaux fossiles, p. 95, t. X.

Syn. *Lycopodites squamatus* Brongn. in Cuvier & Brongn. Descr. géol. des env. de Paris, p. 359, t. XI, fig. 3 (1822). And Brongn., Sur la Classification .... des Végétaux Fossiles en Général; Chap. 11; in Mém. du Mus. d'Histoire nat., VIII, p. 304; t. VI, fig. 1.

This is in all probability a *Lycopod* rather than a moss.

*Muscites Sternbergianus* Dunker is not a moss, but a *Sphenolepidium*.

**Muscites tortifolius** Casp. & Klebs.

1906 *Muscites tortifolius* Caspary & Klebs, in Caspary, Flora d. Bernsteins. [Abh. Kgl. preuss. geol. Landesanstalt, N. F., Heft 4, p. 57; t. VIII, fig. 49.] Amber

Caspary can suggest no relationship. It is clearly a pleurocarpous moss. The leaves are figured as strongly toothed, the acumen strongly half twisted; approximately two-thirds of a millimetre in length, and deeply plicate — an unusual feature in leaves of such small size.

**Muscites Tournalii** Brongn.

cf. *Fontinalis Tournalii* (Brongn.) Schimp.

**Najadita** Buckman

1850 *Najadita* gen. nov. Buckman, J. On some Fossil plants of the Lower Lias, in Quart. Journ. Geol. Soc., VI, p. 415.

Gardner, on Mesozoic Angiosperms, Geol. Mag. III, 1886, p. 203, refers the three species here described to Bryophytes; but Miss Sillas (Quart. Journ. Geol. Soc., LVII, p. 307) places them with the Lycopods, and this seems to be generally accepted. Cfr. Zeiller, in Progressus Rei Botanicae, II, p. 179 (1908).

**Schlotheimia tenuifolia** Sternb.

Jongmans in Med. van de Rijksopspor. van Delfstoffen, No. 3, p. 214, refers to this. It is a genus of Calamites alliance, and has nothing to do with the moss genus *Schlotheimia* Brid.

**Sporogonites** Halle**Sporogonites** Halle.

*Sporogonites* Halle, gen. nov. A fossil Sporogonium from the Lower Devonian of Rörägen in Norway; Bot. Not. 1916, p. 79; with text figure.

**Sporogonites exuberans** Halle.

- 1916 *Sporogonites exuberans* Halle, T. G. Lower Devonian plants from Røragen in Norway. [Kgl. Svensk. Vet.-Akad. Handl., LVII, p. 27; t. III, figs. 11—32]. Cfr. also Fleischer, Max, in Hedwig., LXI, p. 400. Lower Devonian

This has been referred with some confidence to *Andreaea*, but it certainly belongs to no existing genus of mosses. The affinity with *Andreaea* is suggested from the longitudinal dehiscence of the capsule as suggested by vertical clefts in the wall of the sporogonium, but the resemblance ends there. It is in all probability — while possibly indicating the ancestry of the Bryophyta — not a true Bryophyte, but rather related — perhaps closely — to the genera *Rhynia* and *Hornea* recently described by Kidston & Lang (cf. Trans. Roy. Soc. Edinb. LI, p. 761, LII, pp. 603, 643, 831). The vegetative plant of *Sporogonites* is unknown, the large sporogonium, 6—9 × 3—4 mm., on a stalk at least 50 mm. high, resembles that of *Hornea* (rather than *Rhynia*) in the presence of a large columella, rendering the spore-cavity dome-shaped; the spores measure about 20—25 $\mu$ , those of the two genera in question being about 40 $\mu$  & 50 $\mu$  respectively; while *Sporogonites* differs apparently from both in the presence of longitudinal slits; though the capsule of *Hornea* appears to exhibit normally certain irregularities of structure on the capsule wall. It seems in the present state of our knowledge impossible to determine the position of *Sporogonites* more definitely than this.

---

# Index.

Heavy types indicate those places where the synonymy is given.

- Acroceratium cuspidatum* (L.) Mitt. 79.  
*A. sarmentosum* (Wahl.) Mitt. 77.  
*Acrocladium* Mitt. 79—80.  
*A. cuspidatum* (L.) Lindb. 68, 79.  
*A. squarrosus* (L.) Lindb. 80.  
*A. species* 80.  
*Amblyodon* P. Beauv. 41.  
*A. dealbatus* (Dicks.) Beauv. 41.  
*Amblystegiella* Loeske 60.  
*A. confervoides* (Brid.) Loeske 60.  
*Amblystegium* Bry. eur. 59-60.  
*A. aduncum* (Hedw.) Sanio 63.  
*A. aduncum* var. *Kneiffii* 63.  
*A. capillifolium* (Warnst.) 64.  
*A. chrysophyllum* (Brid.) De Not. 81.  
*A. confervoides* (Brid.) 60.  
*A. cordifolium* (Hedw.) De Not. 75.  
*A. Cossoni* (Schreb.) Lindb. 70.  
*A. curvicaule* Jur. 60.  
*A. dilatatum* Wils. 80.  
*A. exannulatum* (Guemb.) De Not. 65.  
*A. fallax* var. *spinifolium* Schimp. 60.  
*A. filicinum* (L.) De Not. 61.  
*A. fluitans* (L.) De Not. 66, 67.  
*A. giganteum* (Schimp.) De Not. 75, 76.  
*A. intermedium* Lindb. 68.  
*A. Kneiffii* Bry. eur. 64.  
*A. Kochii* Bry. eur. 59.  
*A. latifolium* (Lindb. et Arn.) Lindb. 69.  
*A. molle* (Dicks.) Lindb. 80.  
*A. polygamum* Bry. eur. 82.  
*A. protensum* Lindb. 82.  
*A. radicale* Bry. eur. 60.  
*A. riparium* Bry. eur. 59.  
*A. Rotae* De Not. 66.  
*A. scorpioides* (L.) Lindb. 71.  
*A. Sendtneri* (Schimp.) De Not. 72.  
*A. serpens* Bry. eur. 59.  
*A. stellatum* (Schreb.) Lindb. 82.  
*A. stramineum* (Dicks.) De Not. 78.  
*A. turgescens* (Jens.) Lindb. 73.  
*A. varium* (Hedw.) Lindb. 60.  
*A. species* 60.  
*Amphidium* Nees 30.  
*A. lapponicum* (Hedw.) Schimp. 30.  
*Andreaea* Ehrh. 17, 106.  
*Andreaeaceae* 17.  
*A. Huntii* Limpr. 17.  
*A. petrophila* Ehrh. 17.  
*A. Rothii* Web. et Mohr. 17.  
*A. species* 17.  
*Anoetangium* Hedw. 30.  
*A. compactum* Schwaegr. 30.  
*Anomobryum* Schimp. 33.  
*A. concinatum* (Spruce) Lindb. 33.  
*Anomodon* Hook. et Tayl. 55.  
*A. curtispindula* (Neuweiler) 51.  
*A. longifolius* (Schleich.) Bruch 55.  
*A. viticulosus* (L.) Hook. et Tayl. 55.  
*A. species* Eng. et Kink. 55.  
*Antitrichia* Brid. 51.  
*A. curtispindula* (Hedw.) Brid. 51.  
*Astrophyllum curvatulum* Lindb. 37.  
*A. cuspidatum* (L.) Lindb. 36.  
*A. hymenophylloides* (Hueben.) Lindb. 38.  
*A. marginatum* (Dicks.) Lindb. 38.  
*A. medium* (Bry. eur.) Lindb. 38.

- A. silvaticum* Lindb. 37.  
*A. subglobosum* (Bry. eur.) Lindb. 39.  
*A. undulatum* (L.) Lindb. 39.  
*Atrichum subundulatum* Schimp. 45.  
 Aulacomniaceae 40-41.  
*Aulacomnium* Schwaegr. 40-41.  
*A. palustre* (L.) Schwaegr. 40-41.  
*A. palustre* var. *imbricatum* Bry. eur. 40.  
*A. turgidum* Schwaegr. 41.  
*Autophyllites furcatus* Grand'Eury 36.  
  
*Barbula* Hedw. 26.  
*B. fallax* Hedw. 26.  
*B. icmadophila* Schimp. 26.  
*B. paludosa* Schleich. 26.  
*B. rubella* Lindb. 26.  
*B. subcanescens* Goepp. et Ber. 26, 101.  
 Bartramiaceae 43-44.  
*Blindia* Bry. eur. 19.  
*B. acuta* (Huds.) Bry. eur. 19.  
*B. acuta* var. *trichodes* Braithw. 19.  
 Brachytheciaceae 90-96.  
*Brachythecium* Bry. eur. 91-93.  
*B. albicans* (Neck.) Bry. eur. 91.  
*B. glareosum* (Bruch) Bry. eur. 92.  
*B. Mildeanum* (Schimp.) Schimp. 92.  
*B. plumosum* (Sw.) Bry. eur. 92.  
*B. reflexum* (Stark) Bry. eur. 92.  
*B. rivulare* (Bruch) Bry. eur. 92.  
*B. rutabulum* (L.) Bry. eur. 92.  
*B. salebrosus* (Hoffm.) Bry. eur. 93.  
*B. turgidum* (Hartm.) Hartm. f. 93.  
*B. velutinum* (L.) Bry. eur. 93.  
*B. species* 93.  
 Bryaceae 31-36.  
*Bryum* Dill. 33-36.  
*Bryum capillare* L. 33.  
*B. cirratum* Hoppe et Hornsch. 33.  
*B. crispulum* Hampe 34.  
*B. cyclophyllum* (Schwaegr.) Bry. eur. 34.  
*B. Duvalii* Voit. 34.  
*B. elegans* Nees 34.  
*B. erythrocarpum* Schwaegr. 34.  
*B. intermedium* Brid. 34.  
  
*B. lacustre* Brid. 34.  
*B. microstegium* Bry. eur. 34.  
*B. neodamense* Itzigs. 34.  
*B. pallens* Swartz 35.  
*B. pseudotriquetrum* Schwaegr. 35, 36.  
*B. Schleicheri* Schwaegr. 35.  
*B. Schleicheri* var. *latifolium* Schimp. 35.  
*B. ventricosum* Dicks. 35.  
*B. species* 36.  
*Bryon crispatum* Grand'Eury 36.  
  
*Calliergon* (Sull.) Kindb. 75-79.  
*C. cordifolium* (Hedw.) Kindb. 75.  
*C. diluvianum* (Schimp.) Dixon 75.  
*C. giganteum* (Schimp.) Kindb. 75.  
*C. Richardsoni* (Mitt.) Kindb. 77.  
*C. Richardsoni* Zmuda (not Kindb.) 76, 77.  
*C. sarmentosum* (Wahl.) Kindb. 77-78.  
*C. stramineum* (Dicks.) Kindb. 78.  
*C. trifarium* (Web. et Mohr) Kindb. 72, 80.  
*C. tundrae* (Arn.) 73.  
*C. turgescens* (Jens.) Kindb. 73.  
*C. species* 79.  
*Campthothecium* Bry. eur. 90-91.  
*C. lutescens* (Huds.) Bry. eur. 91.  
*C. nitens* (Schreb.) Schimp. 90-91.  
*C. Woldenii* Grout 91.  
*Campylium* (Sull.) Bryhn 81-83.  
*C. chrysophyllum* (Brid.) Bryhn 81.  
*C. helodes* (Spr.) Broth. 81.  
*C. insubricum* (Farneti) Dixon 81.  
*C. polygamum* (Bry. eur.) Bryhn 82.  
*C. protensum* (Brid.) Broth. 82.  
*C. Sommerfeltii* (Myr.) Bryhn 82.  
*C. stellatum* (Schreb.) Lang. et Jens. 82-83.  
*C. species* 83.  
*Campylopus flexuosus* (L.) Brid. 23.  
 Catharinaeae Ehrh. 45.  
*C. subundulata* (Goepp. et Menge) 45.



- C. undulata* (L.) Web. et Mohr. 45.  
 Catoscopiaceae 43.  
*Catoscopium* Brid. 43.  
*C. nigrifum* (Hedw.) Brid. 43.  
*Ceratodon* Brid. 19.  
*C. purpureus* (L.) Brid. 19.  
*C. purpureus* var. *paludosus* Warnst. 19.  
*Cinclidium* Sw. 39, 40.  
*C. arcticum* Schimp. 39, 40.  
*C. latifolium* Lindb. 40.  
*C. stygium* Sw. 40.  
*C. species* 40.  
*Cirriphyllum* Grout 94.  
*C. cirrosum* (Schwaegr.) Grout 94.  
*C. Vaucheri* (Bry. eur. ex p.) Loeske et Fleisch. 94.  
 Climaciaceae 50.  
*Climacium* Web. et Mohr 50.  
*C. dendroides* (Dill.) Web. et Mohr 50.  
*Conostomum* Sw. 43.  
*C. boreale* Sw. 43.  
*C. tetragonum* (Dicks.) Lindb. 43.  
*Coscinodon* Spreng. 28.  
*C. humilis* Milde 28.  
*Cratoneuron* (Sulliv.) Roth 61-62.  
*C. commutatum* (Hedw.) Roth 61-62.  
*C. decipiens* (De Not.) Broth. 62.  
*C. falcatum* (Brid.) Roth 62.  
*C. irrigatum* (Zett.) Roth 62.  
*C. species* 62.  
*Cryptothecium* Hueb. 96.  
*C. antediluvianum* Hueb. 96.  
*Otenidium* (Schimp.) Mitt. 83.  
*C. molluscum* (Hedw.) Mitt. 83.  
*Desmatodon* Brid. 27.  
*D. latifolius* (Hedw.) Bry. eur. 27.  
*D. latifolius* var. *muticus* Brid. 27.  
*Dichelyma* Myr. 50.  
*D. capillaceum* 18, 50.  
*D. species* 49, 50.  
*Dichodontium* Schimp. 20.  
*D. pellucidum* (L.) Schimp. 20.  
*D. subpellucidum* (Goepp. et Menge) 20.  
 Dicranaceae 17-23.  
*Dicranella* Schimp. 19-20.  
*D. Bergeri* (Stark) 20.  
*D. cerviculata* (Hedw.) Schimp. 19.  
*D. Mühlenbeckii* (Stark) 21.  
*D. squarrosa* (L.) Schimp. 19.  
*D. Sauteri* (Stark) 21.  
*D. species* 19, 20.  
*Dicranites* Klebs 22, 23.  
*D. Casparyi* Klebs 23, 24.  
*D. obtusifolius* Casp. et Klebs 23.  
*D. subflagellare* Casp. 22, 23.  
*Dicranodontium* Bry. eur. 23.  
*D. longirostre* (Starke, Bry. eur. 23.  
*Dicranoweisia* Lindb. 20.  
*D. crispula* (Hedw.) Lindb. 20.  
*Dicranum* Hedw. 20-22.  
*D. Bergeri* Bland. 20.  
*D. Bonjeani* De Not. 21.  
*D. congestum* Brid. 21.  
*D. fuscensens* Turn. 21.  
*D. Mühlenbeckii* Bry. eur. 21.  
*D. parietinum* Hartz 21.  
*D. Sauteri* Bry. eur. 21.  
*D. scoparium* (L.) Hedw. 21, 22.  
*D. scoparium* var. *alpestre* Milde 22.  
*D. Scottianum* Turn. 22, 23.  
*D. simplex* Goepp. et Menge 19.  
*D. strictum* Schleich. 22.  
*D. subflagellare* Goepp. et Menge 22.  
*D. subpellucidum* Goepp. et Menge 20, 22.  
*D. subscoparium* Goepp. et Menge 22.  
*D. species* 22.  
*Didymodon* Hedw. 26.  
*D. alpigena* Vent. 26.  
*D. rigidulus* Hedw. 26.  
*D. rubellus* (Hoffm.) Bry. eur. 26.  
*D. tophaceus* (Brid.) Jur. 26.  
*Distichium* Bry. Eur. 18.  
*D. capillaceum* (Sw.) Bry. eur. 18.  
*Ditrichum* Timm 17.  
*D. flexicaule* (Schleich.) Hampe 17.  
*D. flexicaule* var. *densum* 18.  
*D. tortile* (Schrad.) Lindb. 18, 56.  
*Drepanocladus* Roth 62-75.  
*D. aduncus* (Hedw.) Moenk. 62-63.  
*D. aduncus* (Hedw.) Gr. Kneiffii 63-64.  
*D. aduncus* (Hedw.) Gr. pseudofluitans 64.  
*D. badius* (Hartm.) Roth 64.  
*D. capillifolius* Warnst. 64.

- D. exannulatus* (Guemb.) Warnst. 65-66.  
*D. fluitans* (L.) Warnst. 66-68, 100.  
*D. fluitans* (L.) Gr. Rotae (De Not.) 66.  
*D. fluitans* (L.) Warnst. var. *pseudostamineus* (C. M.) 68.  
*D. Hollosianus* (Schilb.) Györrfy 68.  
*D. intermedius* (Lindb.) Warnst. 68-69.  
*D. latifolius* (Lindb. et Arn.) Broth. 69.  
*D. lycopodioides* (Schwaegr.) Warnst. 69.  
*D. pseudofluitans* (Sanio) 64.  
*D. pseudostamineum* (C. M.) Roth 68.  
*D. revolvens* (Sw.) Warnst. 69-70.  
*D. scorpioides* (L.) Warnst. 70-71.  
*D. Sendtneri* (Schimp.) Warnst. 72.  
*D. Sendtneri* var. *Wilsoni* (Schimp.) 74.  
*D. subaduncus* Warnst. 63.  
*D. trifarius* (Web. et Mohr) Broth. 72-73.  
*D. Tundrae* (Arn.) 73.  
*D. turgescens* (Jens.) Broth. 73.  
*D. vernicosus* (Lindb.) Warnst. 74.  
*D. Wilsoni* (Schimp.) Roth 74.  
*D. species* 75.  
*Dryptodon patens* Brid. 30.  
  
*Elodium* see *Helodium*.  
*Encalypta* Schreb. 27-28.  
*E. alpina* Smith 27.  
*E. rhabdocarpa* Schwaegr. 27, 28.  
Entodontaceae 54.  
*Eucladium* Bry. eur. 25.  
*E. verticillatum* (L.) Bry. eur. 23, 25.  
*Eurhynchium* Bry. eur. 95-96.  
*E. circinatum* Brid. var. *deflexifolium* (Solms) Boul. 93.  
*E. myosuroides* (Dill.) Schimp. 53.  
*E. myurum* (Poll.) Dixon 54.  
*E. praelongum* Bry. eur. 94, 95.  
*E. rusciforme* (Neck.) Milde 95.  
*E. speciosum* (Brid.) Milde 56, 95.  
*E. Stokesii* (Turn.) Bry. eur. 94, 95.  
  
*E. striatulum* (Spr.) Bry. eur. 95.  
*E. striatulum* var. *integrifolium* 96.  
*E. striatum* (Schreb.) Schimp. 96.  
*E. strigosum* (Hoffm.) Bry. eur. 96.  
*E. Swartzii* (Turn.) Hobk. 94, 95.  
*E. Tommasinii* (Sendtn.) Ruthe 94.  
*E. species* Eng. et Kink. 94.  
  
*Fabronia* Raddi 54.  
*F. octoblepharis* Schleich. 104.  
*Fabroniaceae* 54.  
*Fissidens* Hedw. 23-24.  
*F. adiantoides* (L.) Hedw. 23.  
*F. cristatus* Wils. 23.  
*F. decipiens* De Not. 23.  
*F. julianus* Sav. 23.  
*F. osmundoides* (Sw.) Hedw. 24.  
*F. taxifolius* (L.) Hedw. 24.  
*Fissidentaceae* 23-24.  
*Fontinalaceae* 49-50.  
*Fontinalis* (Dill.) L. 49-50.  
*F. antipyretica* L. 49.  
*F. hypnoides* Hartm. 49.  
*F. pristina* Lesq. 49.  
*F. Sismondana* Schimp. 49.  
*F. Tournalii* (Brongn.) Schimp. 49, 105.  
*F. species* 50.  
  
*Glyphomitrium* Brid. 28.  
*G. Cockerelleae* Brid. et Hollick 28.  
*Glyptostrobus Ungerii* Heer 97.  
*Grimmia* Ehrh. 23-29.  
*G. alpicola* Sw. 28.  
*G. anodon* Bry. eur. 28.  
*G. apocarpa* (L.) Hedw. 28.  
*G. elatior* Bruch 28.  
*G. elongata* Kaulf. 28, 29.  
*G. ericoides* Lindb. 29, 30.  
*G. funalis* (Schwaegr.) Schimp. 29.  
*G. hypnoides* Lindb. 29, 30.  
*G. incurva* Schwaegr. 29.  
*G. Mühlenbeckii* Schimp. 29.  
*G. robusta* 29.  
*G. subelongata* Goepp. et Menge 29.  
*G. torquata* Hornsch. 29.  
*G. trichophylla* Grev. 29.  
*G. species* 29.  
*Grimmiaceae* 28-29.  
*Gymnostomum* Hedw. 24.  
*G. calcareum* Bry. germ. 24.  
*G. ferrugineum* Ludw. 14, 24.

- Hedwigiaceae 48.  
 Hedwigia Ehrh. 48.  
 H. albicans (Web.) Lindb. 48.  
 Helodium (Sull.) Warnst. 58-59.  
 H. Blandovii (Web. et Mohr) 59.  
 H. lanatum (Stroem) Broth. 58.  
 Heterocladium Bry. eur. 54.  
 H. squarrosulum (Voit) Lindb. 54.  
 H. species 55.  
 Homalia (Brid.) Bry. eur. 52.  
 H. trichomanoides (Schreb.) Bry. eur. 52.  
 Homalothecium Bry. eur. 90.  
 H. sericeum (L.) Bry. eur. 56, 90.  
 Homomallium (Schimp) Loeske 60.  
 H. incurvatum (Schr.) Loeske 60.  
 Hornea Kidst. et Lang 106.  
 Hygroamblystegium Loeske 60-61.  
 H. curvicaule (Jur.) Loeske 60.  
 H. fallax (Brid.) Loeske 60.  
 H. filicinum (L.) Broth. 61.  
 H. Heppi (Heer) Broth. 98.  
 Hygrohypnum Lindb. 80-81.  
 H. alpestre (Sw.) Loeske 80.  
 H. dilatatum (Wils.) Loeske 80.  
 H. lignitorum (Schimp.) Dixon 80.  
 H. molle (Dicks.) Loeske 80.  
 H. ochraceum (Turn.) Loeske 80-81.  
 H. palustre (Huds.) Loeske 81.  
 H. Smithii (Sw.) Broth. 81.  
 Hylocomium Bry. eur. 85-86.  
 H. brevirostre (Ehrh.) Bry. eur. 85.  
 H. loreum (Dill.) Bry. eur. 84.  
 H. parietinum (L.) Lindb. 21, 86.  
 H. proliferum (L.) Lindb. 85.  
 H. pyrenaicum (Spr.) Lindb. 86.  
 H. rugosum (Ehrh.) Bry. eur. 85.  
 H. Schreberi (Willd.) De Not. 86.  
 H. splendens (Dill.) Bry. eur. 85.  
 H. squarrosulum (L.) Bry. eur. 84.  
 H. triquetrum (L.) Bry. eur. 84.  
 H. species 86.  
 Hymenostomum R. Br. 24.  
 H. microstomum (Hedw.) R. Br. 24.  
 H. trichostomum Goepp. 24.  
 Hyocmium Bry. eur. 83.  
 H. flagellare (Dicks.) Bry. eur. 83.  
 Hypnaceae 59-90.  
 Hypnites Ett. 97.  
 H. Haeringianus Ett. 97.  
 Hypnodendron (C. M.) Lindb. 96.  
 H. arborescens (Mitt.) Lindb. 96.  
 H. Reinwardtii (Hornsch.) Lindb. 96.  
 Hypnum auct. 62.  
 Hypnum Dill. ex p. 86.  
 H. aduncum Hedw. 62, 63.  
 H. aduncum var. groenlandicum Heer 63.  
 H. aduncum var. Kneiffii groenlandicum 63.  
 H. aduncum var. paternum Sanio 64.  
 H. aduncum var. pseudofluitans Sanio 64.  
 H. aduncum var. sparsifolium (Warnst.) 63.  
 H. albicans Meck. 91, 92.  
 H. alpestre Sw. 80.  
 H. arcticum Sommerf. 81.  
 H. armissanense Schimp. 97, 103.  
 H. Browni Kirchner 97.  
 H. callichroum (Brid.) C. M. 87.  
 H. capillifolium Warnst. 64.  
 H. carbonarium Ludw. 97.  
 H. chrysophyllum Brid. 81.  
 H. cirrosum Schwaegr. 94.  
 H. columbianum Penh. 97.  
 H. commutatum Hedw. 61, 62.  
 H. cupressiforme L. 87.  
 H. cuspidatum L. 79.  
 H. dilatatum Wils. 80.  
 H. diluvianum Schimp. 75.  
 H. elodes Spr. 81.  
 H. exannulatum Guemb. 65, 66.  
 H. exannulatum var. brachydietyon Ren. 65.  
 H. exannulatum var. orthophyllum Milde 65.  
 H. exannulatum Gr. Rotae 66.  
 H. falcatum Brid. 62.  
 H. fastigiatum (Brid.) Hartm. 88.  
 H. fertile Sendtn. 88.  
 H. filicinum L. 61, 62.  
 H. fluitans L. 66, 67, 68.  
 H. fluitans var. brachydietyon Ren. 65.  
 H. fluitans exannulatum 65.  
 H. fluitans exannulatum var. pinnatum Boul. f. 65.  
 H. fluitans var. falcatum Schimp. 67.

- H. fluitans* var. *falcifolium* Ren. 66.  
*H. fluitans* f. *fossilis* Geheeb 67.  
*H. fluitans* var. *glaciale* Ren. 66.  
*H. fluitans* var. *tenuissimum* Schimp. 67.  
*H. giganteum* Schimp. 75, 76.  
*H. haeringianum* Schimp. 97.  
*H. hamulosum* Bry. eur. 88.  
*H. Haydenii* Lesq. 97.  
*H. Heerii* Schimp. 97, 98.  
*H. Heppii* Heer 98.  
*H. hollosianum* Schilb. 68.  
*H. incurvatum* Schrad. 60.  
*H. insubricum* Farneti 81.  
*H. intermedium* Lindb. 68, 69.  
*H. irrigatum* Zett. 62.  
*H. Kneiffii* (Bry. eur.) Schimp. 64.  
*H. lignitorum* Schimp. 80.  
*H. Lindbergii* Mitt. 87.  
*H. lutescens* Huds. 91.  
*H. lycopodioides* Brid. 69.  
*H. lycopodioides* Weber 100.  
*H. Mastodontum* Boul. 98.  
*H. molle* Dicks. 80.  
*H. molluscum* Hedw. 83.  
*H. Noegerrathii* Weber 63.  
*H. ochraceum* Turn. 80.  
*H. oeningense* Schimp. 57.  
*H. palustre* Huds. 81.  
*H. plumula* Schimp. 98.  
*H. polygamum* (Bry. eur.) Wils. 82.  
*H. praelongum* L. 94, 95.  
*H. pratense* Koch 88.  
*H. priscum* Schimp. 98.  
*H. protensum* Brid. 82.  
*H. purpurascens* Limpr. 65.  
*H. purpurascens* var. *Rotae* (De Not.) 66.  
*H. purum* L. 93.  
*H. recurvans* Schwaegr. 88.  
*H. reptile* (Rich.) 88.  
*H. revolvens* Sw. 69, 70.  
*H. Richardsoni* (Mitt.) Lesq. et James 77.  
*H. rutabulum* L. 92.  
*H. salebrosum* Hoffm. 93.  
*H. Saportanum* Schimp. 99, 104.  
*H. sarmentosum* Wahl. 77, 78.  
*H. Schimperii* Heer 97, 99.  
*H. Schimperii* (Ung.) Schimp. 99, 104.  
*H. Schreberi* Willd. 86.  
*H. scorpioides* L. 70, 71.  
*H. Sendteri* Schimp. 72.  
*H. sericeum* L. 90.  
*H. splendens* Dill. 85.  
*H. squarrosus* L. 84.  
*H. stellatus* Schreb. 83.  
*H. stramineum* Dicks. 78.  
*H. striatum* Schreb. 96.  
*H. strigosum* Hoffm. 96.  
*H. Swartzii* Turn. 95.  
*H. Taramellianum* Farneti 68, 99.  
*H. trichoides* Neck. 90.  
*H. trifarium* (Web. et Mohr) 72, 73.  
*H. turgescens* Jens. 73.  
*H. Ungerii* Schimp. 99, 102.  
*H. Vaucheri* Lesq. 89.  
*H. velutinum* L. 93.  
*H. vernicosum* Lindb. 74.  
*H. viride* Hartz 99.  
*H. Weberianum* Goepp. 72, 100.  
*H. Wilsoni* Schimp. 74.  
*H. species?* Hollós 68.  
*H. species* 100.  
*Isopterygium* Mitt. 89.  
*I. pulchellum* (Dicks.) Jaeg. 89.  
*Isothecium* Brid. 53-54.  
*I. myosuroides* (Dill.) Brid. 53.  
*I. myurum* (Poll.) Brid. 53.  
*I. viviparum* (Neck.) Lindb. 53.  
*Leersia alpina* Lindb. 27.  
*L. rhabdocarpa* Lindb. 27.  
*Lembophyllaceae* 53-54.  
*Leptobryum* Wils. 31.  
*L. pyriforme* (L.) Wils. 31.  
*Leptodictyum riparium* (L.) Warnst. 59.  
*Lescuraea* Bry. eur. 55.  
*L. striata* (Schwaegr.) Bry. eur. 55.  
*Leskea* Hedw. 55-56.  
*L. polycarpa* Ehrh. 55.  
*L. species* 56.  
*Leucodon* Schwaegr. 50.  
*L. sciurioides* (L.) Schwaegr. 50-51.  
*Leucodontaceae* 50-51.  
*Limprichtia intermedia* (Lindb.) Loeske 69.  
*L. vernicosa* (Lindb.) Loeske 74.  
*Lycopodites Meekii* Lesq. 100.  
*L. squamatus* Brongn. 105.  
*Meesea* Hedw. 41-43.  
*M. Albertini* Bry. eur. 41.  
*M. longiseta* Hedw. 42.  
*M. trichodes* (L.) Spruce 42.  
*M. triquetra* (L.) Aongstr. 42, 43.  
*M. triquetra* var. *timmioides* Sanio 42.

- M. tristicha* (Funck) Bry. eur. 42.  
 Meeseaceae 41-43.  
 Mniaceae 36-40.  
*Mniobryum* Limpr. 33.  
*M. albicans* (Wahl.) Limpr. 33.  
*M. albicans* var. *glaciale* Limpr. 33.  
*Mnium* L. 36-39.  
*M. affine* Bland. 36, 38.  
*M. affine* var. *integritolium* Lindb. 36.  
*M. antiquorum* Card. et Dixon 37, 102.  
*M. cinclidioides* (Blytt) Hüb. 37.  
*M. curvatulum* (Lindb.) Limpr. 37.  
*M. cuspidatum* (L.) Leyss. 37.  
*M. hornum* L. 37.  
*M. hymenophylloides* Hüb. 37, 38.  
*M. marginatum* (Dicks.) P. Beauv. 38.  
*M. medium* Bry. eur. 38.  
*M. punctatum* (L.) Hedw. 38.  
*M. riparium* Mitten. 38.  
*M. rostratum* Schrad. 39.  
*M. rugicum* Laur. 39.  
*M. subglobosum* Bry. eur. 38, 39.  
*M. undulatum* (L.) Weis 39.  
*M. species* 39.  
*Mollia tortuosa* Lindb. 25.  
*Muscites* Brongn. 101-104.  
*M. apiculatus* Goepp. et Ber. 26, 101.  
*M. Bertrandii* Lignier 101.  
*M. confertus* Goepp. et Ber. 24, 101.  
*M. dubius* Goepp. et Ber. 101.  
*M. elatinus* Sap. 57, 102.  
*M. elegans* Goepp. 102.  
*M. fontinaloides* Ung. 102.  
*M. Hauchecornei* Casp. et Klebs 102.  
*M. hirsutissimus* Goepp. et Ber. 102.  
*M. hypnoides* Ung. 99, 102.  
*M. intricatus* Sap. 102.  
*M. joursacensis* Marty 103.  
*M. oeningensis* Braun 57, 103.  
*M. pereger* Sap. 103.  
*M. polytrichaceus* Ren. et Zeill. 103.  
*M. pulvinatus* Sap. 103.  
*M. redivivus* Sap. 104.  
*M. Schimperii* Ung. 99, 104.  
*M. serratus* Goepp. et Ber. 54, 104.  
*M. setosus* Sap. 104.  
*Fossilium Catalogus* II. 13  
*M. squamatus* Brongn. 105.  
*M. Sternbergianus* Dunker 105.  
*M. tortifolius* Casp. et Klebs 105.  
*M. Tournalii* Brongn. 49, 105.  
*Najadita* Bruckm. 105.  
*Neckera* Hedw. 51-52.  
*N. complanata* (L.) Hüb. 51.  
*N. crispa* (L.) Hedw. 52.  
*N. pennata* (L.) Hedw. 52.  
*N. pumila* Hedw. 52.  
*N. species* 52.  
 Neckeraceae 51-53.  
*Oligotrichum* Lam. et De Cand. 45.  
*O. hercynicum* (Huds.) Lindb. 45.  
*Oncophorus* Brid. 20.  
*O. virens* (Sw.) Brid. 20.  
*Oreoweisia* De Not. 20.  
*O. serrulata* (Funck) De Not. 20.  
*Orthothecium* Bry. eur. 54.  
*O. chryseum* (Schwaegr.) Bry. eur. 54.  
*O. intricatum* (Hartm.) Bry. eur. 54.  
*O. rufescens* (Dicks.) Bry. eur. 54.  
 Orthotrichaceae 30-31.  
*Orthotrichum* Hedw. 31.  
*O. diaphanum* (Gmel.) Schrad. 31.  
*O. species* 31.  
*Oxyrrhynchium* Warnst. 94-95.  
*O. praelongum* (Bry. eur.) Warnst. 94-95.  
*O. rusciforme* (Neck.) Warnst. 95.  
*O. speciosum* (Brid.) Warnst. 95.  
*O. Swartzii* (Turn.) Warnst. 95.  
*Paludella* Ehrh. 41.  
*P. squarrosa* (L.) Brid. 41.  
*Phascum* L. 26.  
*P. cuspidatum* Goepp. 26.  
*Philonotis* Brid. 43-44.  
*P. alpicola* Jur. 44.  
*P. calcarea* (Bry. eur.) Schimp. 43.  
*P. coespitosa* Wils. 43.  
*P. fontana* (L.) Brid. 43-44, 56, 103.  
*P. fontana* var. *ampliretis* Dixon 44.  
*P. fontana* var. *glacialis* 44.  
*P. seriata* Mitt. 44.  
*P. tomentella* Mol. 44.

- P. species* 44.  
*Pinnatella* (C. M.) Fleisch. 53.  
*P. alopecuroides* (Hook.) Fleisch. 53.  
*P. species* 53.  
*Plagiopodopsis* Britton et Hollick 43.  
*P. Scudderi* Britton et Hollick 43.  
*Plagiothecium* Bry. eur. 89-90.  
*P. denticulatum* L. Roeseanum Hamp. 89.  
*P. latebricola* (Wils.) Bry. eur. 89.  
*P. Muehlenbeckii* (Schimp.) Bry. eur. 89.  
*P. pulchellum* (Dicks.) Bry. eur. 89.  
*P. Roeseanum* (Hamp.) Bry. eur. 89.  
*P. Ruthei* Limpr. 89.  
*P. Ruthei* var. *rupincola* Limpr. 89.  
*P. silvaticum* (Huds.) Bry. eur. 89.  
*P. striatellum* (Brid.) Lindb. 89.  
*P. undulatum* (L.) Bry. eur. 90.  
*Pogonatum* P. Beauv. 45-46.  
*P. suburnigerum* (Goepp. et Menge) Dixon 45.  
*P. urnigerum* (L.) P. Beauv. 46.  
*Pohlia* Hedw. 32-33.  
*P. albicans* Lindb. 33.  
*P. commutata* (Schimp.) Lindb. 32.  
*P. cruda* (L.) Lindb. 32.  
*P. cucullata* (Schwaegr.) Bruch 32.  
*P. longicolla* (Sw.) Lindb. 32.  
*P. Ludwiggii* (Spreng.) Lindb. 32.  
*P. nutans* (Schreb.) Lindb. 32.  
*P. sphagnicola* (Bry. eur.) Lindb. 33.  
 Polytrichaceae 45-48.  
*Polytrichum* L. 46-48.  
*P. alpinum* L. 46.  
*P. attenuatum* Menz. 46.  
*P. commune* L. 46.  
*P. Florissanti* Knowlton 47.  
*P. gracile* Menz. 47, 101.  
*P. juniperinum* Wild. 47, 101.  
*P. piliferum* Schreb. 47.  
*P. pilosum* Floercke 47.  
*P. sexangulare* Floercke 47.  
*P. strictum* Banks 47, 48.  
*P. strictum* var. *alpestre* Limpr. 48.  
*P. subseptentrionale* Goepp. et Menge 48.  
*P. subundulatum* Goepp. et Menge 45.  
*P. suburnigerum* Goepp. et Menge 45.  
*P. species* 48.  
*Porotrichum alopecurum* (L.) Mitt. 53.  
 Pottiaceae 24-28.  
*Pseudocalliergon trifarium* (Web. et Mohr) Loeske 73.  
*P. turgescens* (Jens.) Loeske 73.  
*Pseudoleskea* Bry. eur. 56.  
*P. atrovirens* (Dicks.) Bry. eur. 56.  
*P. filamentosa* (Dicks.) Broth. 56.  
*P. patens* Limpr. 56.  
*Ptilium* (Sull.) De Not. 87.  
*P. crista-castrensis* (L.) De Not. 87.  
*Pylaisia* Bry. eur. 54.  
*P. polyantha* (Schreb.) Bry. eur. 54.  
*Rhacomitrium* Brid. 29-30.  
*R. affine* Lindb. 29.  
*R. canescens* (Weis) Brid. 29, 30.  
*R. fasciculare* (Schr.) Brid. 30.  
*R. heterostichum* (Hedw.) Brid. 30.  
*R. heterostichum* var. 29.  
*R. hypnoides* (L.) Lindb. 30.  
*R. lanuginosum* Brid. 30.  
*R. patens* (Brid.) 30.  
*Rhynchosostegium* Bry. eur. 96.  
*R. Knowltoni* E. G. Britt. 96.  
*Rhynia* Kidst. et Lang 106.  
*Rhytidadelphus* (Lindb.) Warnst. 84.  
*R. loreus* (Dill.) Warnst. 84.  
*R. squarrosus* (L.) Warnst. 84.  
*R. triqueter* (L.) Warnst. 84.  
*Rhytidium* (Sull.) Kindb. 85.  
*R. rugosum* (Ehrh.) Kindb. 85.  
*Schistidium alpicola* var. *rivulare* Limpr. 28.  
*Schistophyllum adiantoides* Brid. 23.  
*S. juleanum* (Sav.) Lindb. 23.  
*Schlotheimia tenuifolia* Sternb. 105.  
*Scleropodium* Bry. eur. 93.  
*S. purum* (L.) Limpr. 93.  
*Scorpidium scorpioides* (L.) Limpr. 71.  
*Scorpiurium Schimp.* 93.  
*S. deflexifolium* (Solms) Schimp. 93.  
*Sematophyllum recurvans* (Schwaegr.) E. G. Britt. 88.  
*Sequoia Haydenii* (Lesq.) Cock. 97.

- Sphaerocephalus palustris* (L.) Lindb. 40.  
 Sphagnaceae 12-17.  
*Sphagnum* Ehrh. 12-17.  
*S. acutifolium* Ehrh. 12.  
*S. brevifolium* Röhl. 15.  
*S. compactum* De Cand. 12.  
*S. cuspidatum* Ehrh. 13, 14.  
*S. cymbifolium* Ehrh. 13, 14.  
*S. fimbriatum* Wils. 13.  
*S. Girgensohnii* Rüss. 14.  
*S. imbricatum* (Hornsch.) Rüss. 14.  
*S. intermedium* Hoffm. 14, 15.  
*S. Lindbergii* Schimp. 14.  
*S. Ludwigii* Schimp. 14.  
*S. magellanicum* Brid. 14.  
*S. medium* Limpr. 14, 15.  
*S. palustre* Linn. 13, 15.  
*S. papillosum* Lindb. 15.  
*S. recurvum* P. Beauv. 15.  
*S. recurvum* var. *parvifolium* Warnst. 15.  
*S. rubellum* Wils. 15.  
*S. squarrosum* Pers. 15.  
*S. subbicolor* Hampe 15.  
*S. subsecundum* Nees 14, 16.  
*S. teres* Aongstr. 13, 16.  
*S. Wilsoni* Röhl. 15, 16.  
*S. species* 16, 17.  
*Sphenolepidium Sternbergianum* (Dunk.) 105.  
 Splachnaceae 31.  
*Splachnum* L. 31.  
*S. ampullaceum* L. 31.  
*S. sphaericum* (L. f.) Sw. 31.  
*Sporogonites* Halle 105-106.  
*S. exuberans* Halle 17, 106.  
*Stereodon* (Brid.) Mitt. 87-89.  
*S. arcuatus* Lindb. 87.  
*S. callichrous* Brid. 87.  
*S. chryseus* (Schwaegr.) Bry. eur. 54.  
*S. cupressiformis* (L.) Brid. 87.  
*S. cupressiformis* var. *filiiformis* (Brid.) 87.  
*S. fastigiatus* Brid. 88.  
*S. fertilis* (Sendtn.) Lindb. 88.  
*S. hamulosus* (Bry. eur.) Lindb. 88.  
*S. pallescens* (Hedw.) Lindb. 88.  
*S. pratensis* (Koch) Warnst. 88.  
*S. recurvans* (Schwaegr.) Broth. 88.  
*S. reptilis* (Rich.) Mitt. 88.  
*S. revolutus* Mitt. 89.  
*S. Vaucheri* (Lesq.) Lindb. 89.  
*Swartzia montana* Lindb. 18.  
*Thamnium* Bry. eur. 53.  
*Th. alopecurum* (L.) Bry. eur. 53.  
*Th. species* 53.  
*Thuidium* Bry. eur. 56-58.  
*Th. abietinum* (Dill.) Bry. eur. 56.  
*Th. antiquum* Schimp. 56.  
*Th. Blandowii* (Web. et Mohr) Bry. eur. 58.  
*Th. decipiens* De Not. 62.  
*Th. delicatulum* (Dill.) Mitt. 57.  
*Th. elatinum* (Sap.) Schimp. 57, 102.  
*Th. lanatum* (Stroem.) Hagen 59.  
*Th. minutulum* (Hedw.) Bry. eur. 57.  
*Th. oeningense* (Braun) Schimp. 57.  
*Th. Philiberti* Limpr. 58.  
*Th. Philiberti* var. *pseudo-tamarisci* (Limpr.) Ryan et Hagen 58.  
*Th. recognitum* Lindb. 57, 58.  
*Th. tamariscinum* (Hedw.) Bry. eur. 58.  
*Th. species* 58.  
 Timmia Hedw. 44-45.  
*T. austriaca* Hedw. 44.  
*T. bavarica* Hessel. 45.  
*T. megapolitana* Hedw. 45.  
*T. norvegica* Zett. 45.  
 Timmiaceae 44-45.  
*Tomenthypnum nitens* (Schreb.) Loeske 91.  
*Tortella* Limpr. 25.  
*T. fragilis* (Hook. f. et Wils.) Limpr. 25.  
*T. inclinata* (Hedw. f.) Limpr. 25.  
*T. tortuosa* (L.) Limpr. 25.  
*Tortula* Hedw. 27.  
*T. aciphylla* Hartm. 27.  
*T. aciphylla* var. *mucronata* Sendtn. 27.  
*T. norvegica* (Web.) Wahl. 27.  
*T. ruralis* (L.) Ehrh. 27.  
*T. species* 27.  
*Trichosteleum* Boschi (Doz. et Molk.) 104.  
*Trichostomum* Hedw. 25.  
*T. polyphyllum* 25.  
*T. polystichum* (? in Goepp. et Menge) 25.  
*T. strictum* (Sw. or Bry. eur.) 25.  
*T. subpolystichum* Goepp. et Menge 25.  
*T. substrictum* Goepp. et Menge 25.  
 Uota Mohr 31.  
*U. curvifolia* (Wahl.) Brid. 31.

- |   |  |
|---|--|
| Warnstorfia exannulata<br>(Guemb.) Loeske 66. | W. nutans Hedw. 32, 33.                |
| Webera albicans Schimp. 33.                   | W. sphagnicola Schimp. 33.             |
| W. commutata Schimp. 32.                      | Weisia Hedw. 24.                       |
| W. cruda (L.) Bruch 32.                       | W. conferta Schimp. 24, 101.           |
| W. cucullata (Schwaegr.)<br>Schimp. 32.       | Widdringtonia helvetica Heer 97.       |
| W. longicolla (Sw.) Hedw. 32.                 | Zygodon Hook. et Tayl. 31.             |
| W. Ludwigii Schimp. 32.                       | Z. viridissimus (Dicks.) R. Br.<br>31. |
-